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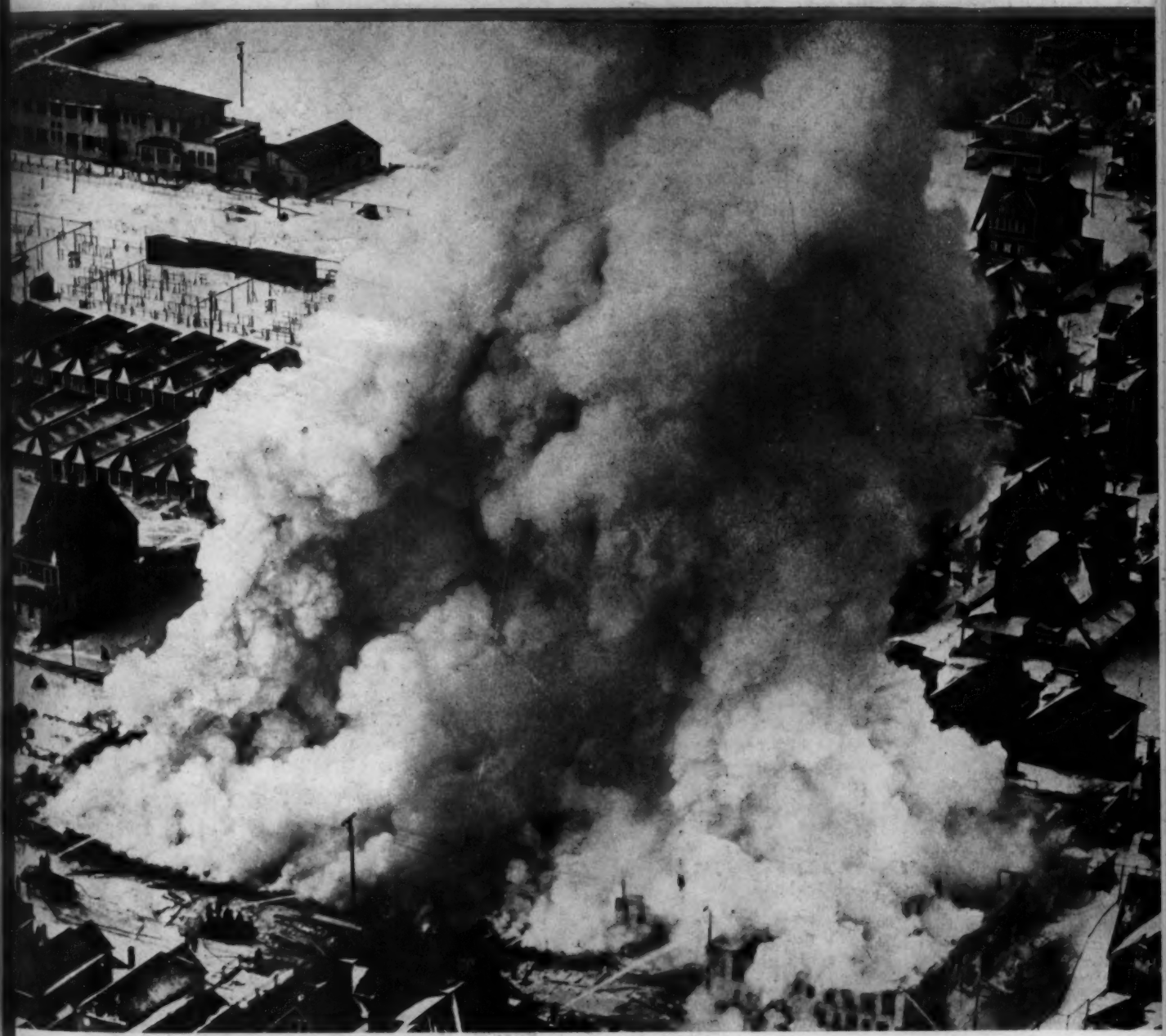
FIRE ENGINEERING

The Journal of the Fire Protection Profession Since 1877

88, No. 3 MARCH, 1935 Member A.B.C.—A.B.P.



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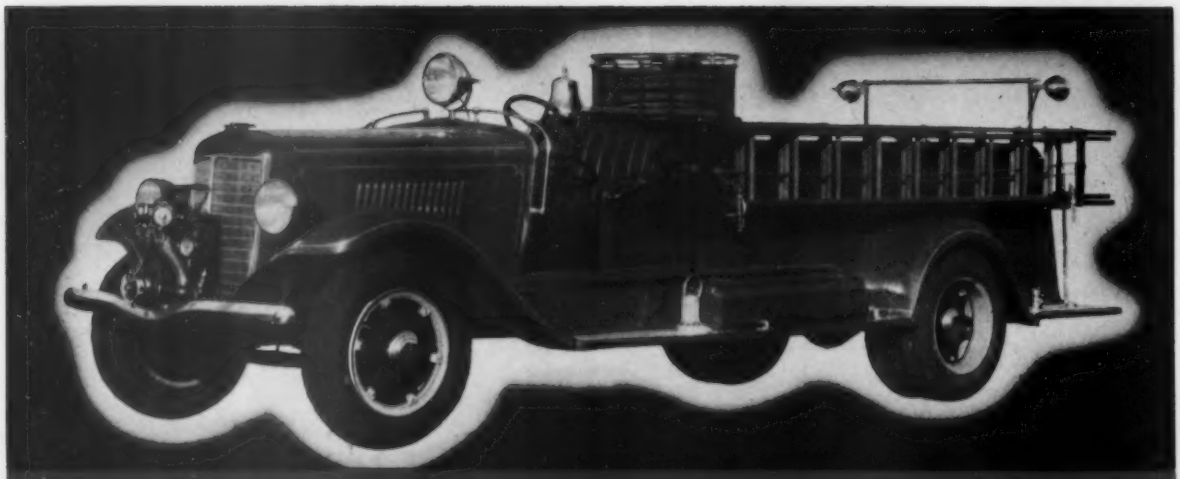

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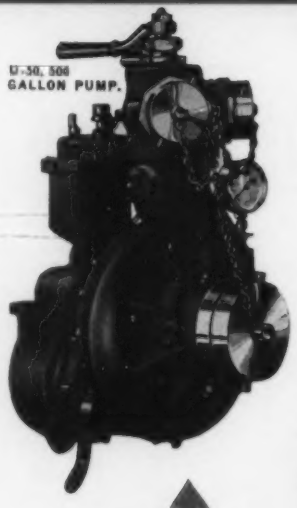

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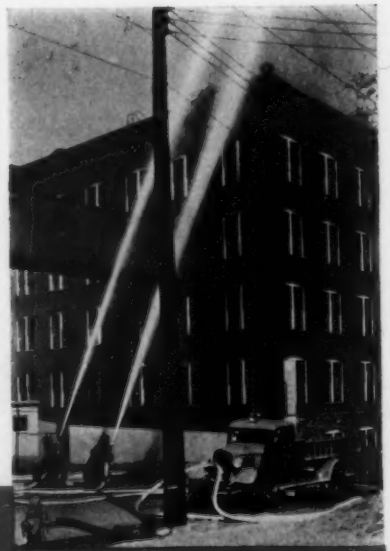

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FIRE ENGINEERING

The Journal of the Fire Protection Profession Since 1877

ROBERT H. LOCKWOOD, Associate Editor — FRED SHEPPERD, Editor — N. N. WOLPERT, Assistant Editor

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WHILE we do not make a practice of soliciting testimonials, it always pleases us, quite naturally, to hear the nice things our readers say spontaneously about FIRE ENGINEERING.

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• Of course criticism is just as welcome as praise. If there is any subject you don't think we are covering properly, or if you can suggest any way FIRE ENGINEERING can be made of greater value and interest to you, please let us know. We get a great kick out of changing brickbats into bouquets.

The Publishers

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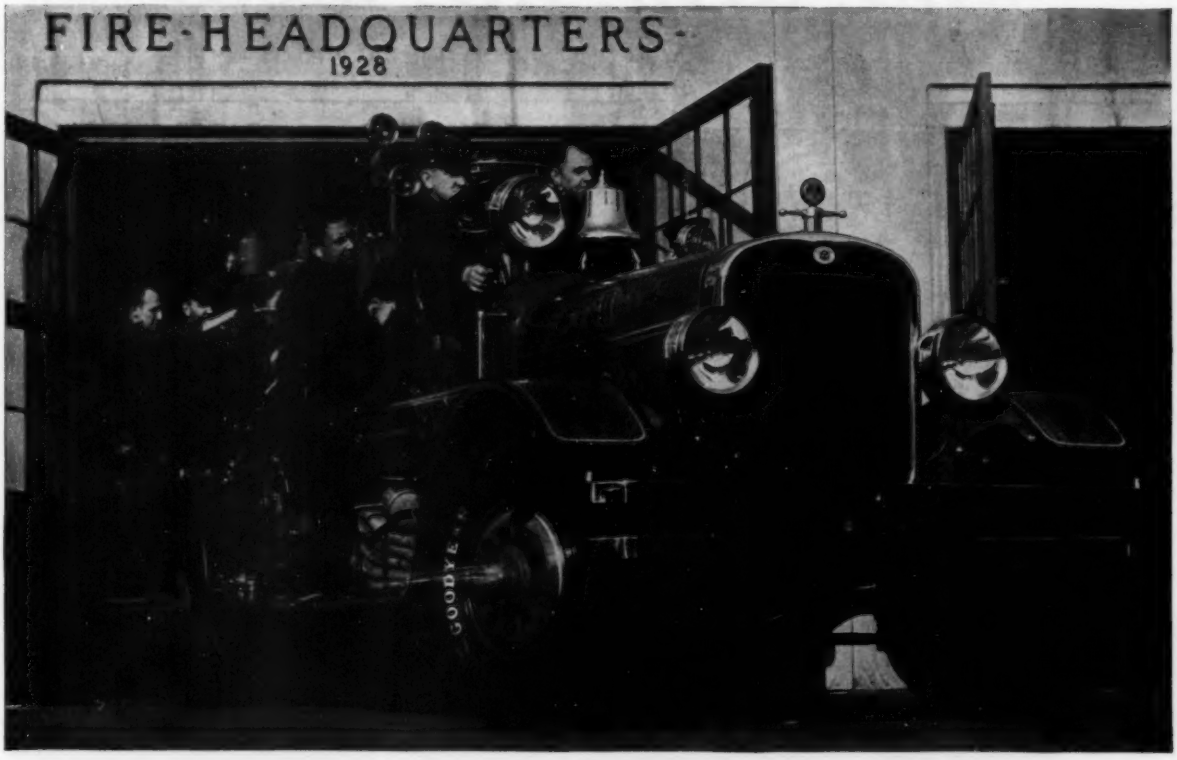
Step on it! . . .



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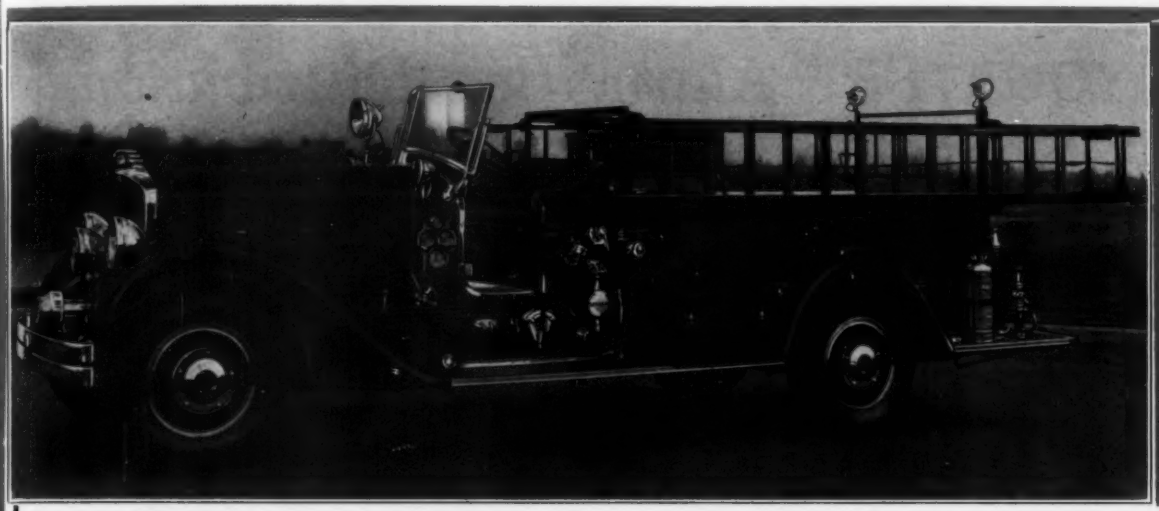

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After you have determined your needs in this manner, you should put a figure in your budget large enough to take care of the purchase and installation of these boxes. Many cities have suffered during the past few years because of reduced appropriations; but, now with business picking up and tax collections improving, you should lay definite plans to start building up your fire alarm box distribution again on a planned basis, so that the efficiency of your fire department will not become too seriously impaired.

We have an interesting booklet "Planning Fire Alarm Box Distribution For Fifty Years," that should be a real aid to you in planning your fire alarm requirements. A copy will be sent to you on request.

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FIRE ENGINEERING

The Journal of the Fire Protection Profession

Volume 88 MARCH, 1935 Number 3

With the Editor

Sirens for Volunteers A volunteer department in the southern part of the country has adopted an innovation which seems to offer possibilities. It is the placing of sirens on the cars of all department members.

A deposit of five dollars is required of each member receiving a siren, and when the siren is turned in the money is refunded.

While there are numerous instances of individual volunteer firemen purchasing and installing sirens on their private cars, this is the first time that a volunteer Fire Department has bought sirens in large numbers and supplied one to each member having a car of his own.

The siren proves far more effective than fire department plates in securing the right of way. Quicker response has been noted, with less accidents. This is easily understood, for no one would ever stop to look at the plates on a private car which happened to be speeding to a fire, particularly when there is no other means of identifying the car as one being used for fire department purposes. Such a car enroute to a fire has a tendency to develop rivalry among car operators who are not members of the department, with the result that the danger of accidents increases.

On the other hand, when the siren is operating, no matter what type of car it is on, it is sufficient evidence that the car has the right of way, and it is usually given this right.

Volunteer firemen who have used sirens appreciate their aid in speeding up response to fires. The Volunteers are entitled to such aid, and if the department can stand the expense, there is no investment which produces better results.

Surprisingly, where sirens are employed on members' cars, the response to fires is greater than where no sirens are used.

Equally surprising is the fact that no reports have been received of any abuse of the privilege. Incidentally, in these days of crowded highways, and mutual cooperation between neighboring departments, the plan of providing the members of the department who operate cars with sirens, seems to be a very sound and a beneficial one.

Fred Sheppard

Organization of A Junior Fire Department

A Junior Fire Department in Action

By CHIEF H. W. BRYSON,
Fire Department,
Wenatchee, Wash.

THE subject on Junior Fire Department is an important one. To treat this subject with justice would require one that has had such an organization functioning under his management for at least a period of time to iron out the difficulties and handicaps of forming an efficient Junior Department. Nevertheless, I will attempt to give in this paper my object of organizing such a department.

Object

Education of boys twelve years and older in importance of fire prevention and protection; particularly in the safeguarding of life and property against loss by fire, and as a patriotic duty and responsibility of good citizenship in the respective homes, towns, cities, state and nation. To instruct them in cooperation with the local Fire Department, in eliminating fire hazards, beautifying of individual premises, and regarding the danger of matches, bon-fires, rubbish piles, ashes, oily rags, and other ordinary causes of fire. To teach them what to do in case of fire, the extinguishment of fires, rescuing a person from a burning building, and rendering first-aid to the injured.

Organization

The organization of Junior Fire Department should be under the supervision of the Chief of the local Fire Department, and/or by an officer assigned by the Chief of the local department for the purpose of forming and perfecting such an organization. The strength of this organization's membership cannot be definitely stated, but should be left to the discretion of the Chief of the local Fire Department or officer assigned to this work.

Junior Officers

The Chief of the local Fire Department should act as an official Chief of the Junior Department. The officers of the Junior Department should consist as follows: a Junior Chief, Junior Assistant Chief, Junior District Chiefs, Secretary, Junior Captain and Lieutenant.

Juniors Drilling with Apparatus

Duties of the Officers

The Junior Chief should have responsibilities similar to those of the Chief of the regular Fire Department, but act under instructions and supervision of the regular Fire Chief. The Junior Assistant Chief and District Chiefs should have duties similar to those designated above for the same officers in the regular Fire Department. The Junior Secretary should keep a complete record of the activities of the Junior Department. Junior Captains and Lieutenants should have duties similar to those designated above for the same officers in the regular Fire Department.

Companies

Towns and cities should be laid off in districts for the purpose of forming Junior Companies. In a town where there is but one station or headquarters, the number of districts should be from four to six, depending on the area to be covered. In larger cities, where there are a number of stations, the districts should be laid out so that they would be convenient for the Junior Companies meetings to be held at the various Fire Department Sub-Stations. The Junior Fire Companies should consist of the following members: District Junior Chief, Junior Captain, Junior Lieutenant, and twelve Junior Firemen.

Membership

The selection of the Junior members requires a great deal of thought and consideration. For example, a goodly number of Junior are members of the Boy Scouts, Y.M.C.A., and other organizations. They also take an active part in the school activities, besides the many other things these Junior are called upon to do, on account of their ability and willingness. This is not true with all the Juniors in the junior high schools, while a percentage of those that take an active part may vary some-

what from one school to that of another. A census was taken in one of our public junior high schools, and this census shows that 63 per cent of the Juniors in this school were not members of the Boy Scouts or any other organization, nor did they take any part in their school activities.

There are two factors that enter in the consideration of selecting members for the Junior Department. First, the department cannot go into a better field than the one that offers the largest percentage of Juniors that have sufficient leisure time on hand to devote to junior firemenship in a Junior Department. Second, the department cannot go into any field that offers better golden opportunities of extending fire prevention, activities, sportsmanship and the building of character and good citizenship.

Fire Prevention Work

The local Fire Department should furnish suitable inspection blanks to each Junior Company, for the purpose of reporting conditions found by the Junior member that may offer hazard to life and property in their respective districts. They may also distribute fire inspection report blanks to the various homes, acquaint the occupants in the home of the importance of this work and secure their cooperation in filling out the home inspection blank. Such blanks should be turned over to the Junior Secretary for recording.

Course in Firemanship

By the printing of a Junior Firemen's Manual in four classes (or courses), one similar to the Scout Manual, but not in any way conflicting with the Scouts, each Junior member will be given a manual that he may acquaint himself with the course in Firemanship. A suitable award should be given to the Junior member for each class or course he attains. A special award should be given him when he reaches first class Firemanship.

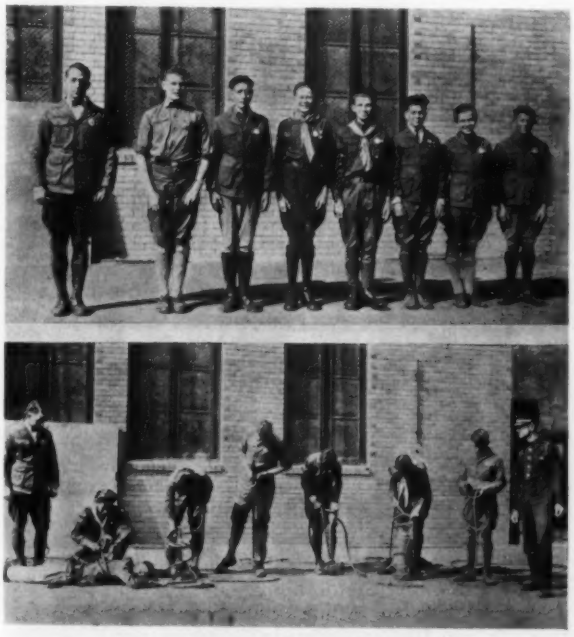
The Juniors Meet with the Senior Fire Department

By having such a manual, the problem of the Junior Fire Department will be solved.

I believe that such an undertaking is possible, and that it will not only be a state-wide organization, but will be a nation-wide organization by having a Junior Firemen Manual. Therefore, the Junior member who has started this course in Firemanship that may move from one locality to another may continue the course.

In conclusion, Fire Chiefs throughout the nation have been promoting educational programs of fire prevention and protection. While the Junior Fire Department is only in its infancy, in time it will prove to be a program of untold value, not only in the safeguarding of life and property against loss by fire, but will prove its value in the building of young manhood for a future generation.

(Excerpts from a paper read before the annual convention of the Washington State Fire Chiefs' Association.)



A Typical Junior Fire Department
Upper—Lined Up in Military Formation. Lower—First Aid Drill.

Fort Collins Shows Causes of Fires

In the annual report of the Fire Department, Fort Colins, Colo., a number of interesting tables are presented by Chief T. P. Treadwell. The table below, taken from this report, can be taken as being representative of the average small city, and shows the chief causes of fire in the order of their importance.

	No. of Fires
Burning Trash	29
Careless Handling of Matches	13
Carelessness—Due to Smoking	12
Careless Disposition of Ashes	12
Backfire of Motor Ignites Gasoline	8
Chimney Burning Out	6
Bad Wiring in Car	6
Electrical, Defective Wiring	3
Careless Use of Gasoline	3
Spontaneous Combustion	3
Burning Straw Stack	3
Defective Chimney	2
Hot Steam Pipe	2
Overheated Stove	2
Blow Torch	1
Sparks from Train	1
Welding Torch Caught Gasoline on Fire	1
Coal Burning Between Hopper and Boiler	1
Excessive Banking of Furnace to Hold Fire	1
Lightning	1
Fireworks	1
Fire from Chimney, Roof Fire	1
Children Playing with Lamp and Papers	1
Wax Caught Fire from Heating on Gas Stove	1
Chicken Brooder Set Fire to Straw	1
Cloth Caught Fire While Using to Remove Coffee Pot from Stove	1
Book Case Caught Fire from Chimney Clean Out	1
Window Screen Fell and Shorted Two Transformers in Power House	1
Short in Arc Light on Street Corner	1
Overheated Motor in Electric Refrigerator	1
Total Fires	120

Should There Be a Fire Protection Tax?

By WM. F. FRANKLIN*

IN an address before the annual convention of the International Association of Fire Chiefs held in Milwaukee last September, I. H. Case, Vice-President and General Manager of FIRE ENGINEERING, suggested a plan for an increase in property taxes on the basis of fire hazards, graded perhaps in the same way that fire insurance rates are established.

Such a tax must be based on taking care of existing city-wide conditions—it must be based on certain standards—certain requirements and certain general averages as set up. These standards and averages are not now set by the authorities making up the city tax program (those who should be interested in "life" protection, as well as "property" protection), but the fire protection standards are set for cities by non-governmental agencies, who have been termed by fire department officials as outside interests; bureaus, whose direct interest lies in the major insurance risks wherein large sums of money—insured property—are involved.

So we come to this thought: What is to be the basis for the tax and who or what is to be the agency to determine it? The municipality, the state or the insurance companies? Under the present methods, cities are rated by the insurance underwriters according to the standards set up by the rating bureaus of the underwriters. Due to the lack of any essential and necessary requirement, the entire city is penalized in the "basic rate" for fire insurance indemnity. Because the city or town has not established all the necessary insurance standards to secure the lowest basic rate, there is no doubt but what the tax payers are paying a "second tax" in their fire insurance premiums. The basic rate is set at that which will, or is supposed to, compensate the insurance companies for the additional risk they believe they are taking in insuring properties and contents in any city not up to their schedule standards.

Taxation Plan Should Be Constructive and Equitable

Any plan of taxation for fire protection should be constructive and equitable to the extent that the public, the taxpayer, the Fire Department, the insured and the insurance companies would be represented and considered, so that none should gain at the others' expense. In other words money spent or saved should be used to provide for more security for all.

At present we find cities providing funds for fire protection services and the insurance companies establishing the basic rate for fire insurance indemnity and the taxpayer, paying for both, either in the tax or in the insurance premium. This seems to be a most unsatisfactory situation; one which should be relieved, so that the taxpayer (and the public) could secure the needed and required protection from one cost, not two.

In *taxing* the public the city does not go into the contents of a building—or the life hazard. It bases its tax on an assessed value for land and property.

In *insuring* a property, the insurance companies consider the value of the building and the contents, the property hazard and the financial risk. The life hazard is not considered, except incidentally.

So in taxing and insuring, neither the city nor the insurance companies give full consideration to the paramount reason for fire protection—*the protection to life.*

Shall we say that "life" is held cheap—but "property" is treasured? For one is risked and the other protected!

As an illustration of the planning and foresight used, observe the precaution most of our cities have taken in protecting life in their public-owned and operated buildings, and in those buildings used for public assemblage (very few public buildings are insured).

Study the history of our most disastrous fires wherein loss of life has been large and you will notice that public buildings and places of public assemblage are very prominent.

Why Not a "New Deal" in Fire Protection?

While we are in the throes of so-called "new deals," why not let us have a real "new deal" in fire protection? Let us set up a new basis—the protection to life—and make the insurance base rate a secondary consideration It is not without the possibility that in so doing the base rate for insurance indemnity shall be taken care of. In other words, by taking precautions to adequately protect life we shall be taking care of those essentials a part of life itself; such as safeguarding wealth, trade and commerce.

It may be argued that there are properties in which the life hazard is non-existent. But the quick reply should be: life is in danger at every property fire for the reason that fires must be fought and firemen are very necessary and important human beings, who should be surrounded with every safeguard against possible injury or loss of life.

In the December, 1932, issue of FIRE ENGINEERING in an article entitled "Weakening the Department," J. W. Stevens, California State Fire Marshal, stated:

> "A study of any of our American cities, covering the fire loss experience over a five or ten year period, will prove to the satisfaction of any reasonable person, I am sure, that a first class Fire Department, which is really a corporation in which all of the people are stockholders, is the best possible investment a city can make, and that it pays big dividends, not only in dollars and cents, but in the vastly more important thing—the saving of human lives."

Protection of Human Life

Another thought consistent with this "protection of life" idea; our Federal and State governments have very rigid laws protecting wild life, and the conservation of tree life is definitely being planned by these same governmental departments. Why not, then, let

* Consulting Fire Alarm Engineer, 420 Lexington Ave., New York, N. Y.

us have a very determined and constructive effort to protect the highest form of life—as we class ourselves —both in buildings and on ships, both of air and water travel?

Some Recent Experiences in Loss of Life

We have had some recent experiences which should be serious enough to cause local, state and national action on the subject of protection to life from fire. The Morro Castle and Kerns Hotel fires are outstanding examples of the disregard for the protection of life, as is prevalent in this country. In both the fires mentioned the properties were insured against property loss, but what of the lives lost due to either carelessness or neglect?

Let us say we can risk property losses but that we will no longer tolerate losses to life. *Protect life and you protect all* should then be the slogan.

Present Fire Protection and Insurance Phases

Now let us look at the private protection and insurances phases in this general plan of protection to life and property.

A private property such as an office building, department store, hotel, apartment, theatre, industrial property, club and similar large and valuable enterprises can, by the installation and maintenance of approved devices and protective systems, such as sprinkler system, automatic detection systems, hose apparatus, extinguishers, signaling systems, shut-off doors and other applications, obtain special insurance rebates from the base rate set for the entire community. Private dwellings, I understand, are not allowed such rebates, as they are in what is termed the one-rate class, residential. In other words, as the risk becomes less hazardous and the values more scattered, the incentives to install protection in properties are not scheduled.

A large and valuable mercantile property can, by the aid of expert advice and direction, install devices, systems and methods which will reduce the cost of fire insurance premium as much as fifty per cent from that which would be fixed on the property without these protective services. For instance, sprinkler systems can be installed, maintained and supervised on such a basis that finance companies will underwrite the cost for these installations and these special applications be made to pay for themselves, with profit, out of insurance premium savings in approximately five to seven years, dependent upon the extent of the property. This is a very attractive and profitable investment method, and is in addition, a very dependable and valuable form of protection to life and property. Other types of protective installations and services are scheduled for insurance rebates when properly applied and approved, but these are of less insurance value and, therefore, carry less premium recognition.

So we find the investment in devices and services for the protection of property recognized by insurance and finance companies as essential to their business practice.

Why Should Not City Follow Same Policy?

Why should not this same sound business practice be followed by the city in its financial policy? For instance, as has been suggested, let the city or town in setting its tax program, base it on two conditions—the assessed value of the property and the fire protection conditions—and, as properties are made safer, grade them as the insurance companies do, by what is done to make them conform to the standards established as necessary to obtain the best ratings from a public protection standpoint. This might be worked out in co-operation with the state insurance departments and the insurance companies.

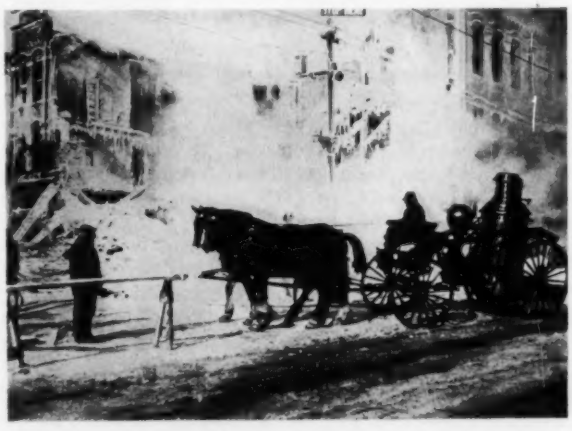
Then again, why could not all property owners file, with their property listing, a statement as to the insurance carried on the building, and the rate of premium paid. A record of all fire insurance coverage in the city could be kept up to date by the voluntary action of the insurance companies in filing such information with the city clerk. This might provide a basis for city assessment. Incidentally, such a plan might be used as a check on arson.

It should follow, that, as a city is able to improve its protective services, the fire protection assessment should be reduced. In other words, as a city, through assessments, makes life and property safer generally and property owners conform to the standards set for their properties in order to obtain assessment reductions, we shall be approaching not only sound business policies, but what is most desired, by "protecting life—protecting all."

Chief Conservator of Life and Property

The Fire Chief, or the head of the city department of public safety, has the opportunity presented to perform a public service heretofore left to others. As the Department of Agriculture strives to conserve our farm products, as other departments of government strive to conserve tree and animal life with the necessary protection, why should not the Fire Chiefs and others consider themselves the conservators of life and property in their communities and inject their influence into the affairs of local government by insisting that, as they are charged with a responsibility which is of the highest order, they should have a definite voice in the city's finance plans to the extent that they are not to be found deficient, in either devices, services, or personnel in the emergency surrounding fire, particularly when it threatens the lives of the citizens of their community.

On this subject of community protection and the economics involved in modern fire protection the following quotation from an article written by John B. Blandford,



Where the New Gives Place to the Old

Two plunging horses hauling an old type steamer to a fire at Waterville, Me., brought back fond memories to the older residents of the community. This unit had to be brought into service when a fire which started in the business section, swept an entire block.

Jr., Director of Safety of the city of Cincinnati, Ohio[1], should be helpful. Mr. Blandford said:

"I have suggested that the Fire Chiefs should extend the range of their professional interest. Fire Chiefs have demonstrated their interest and their competence in fighting fires and preventing fires. Perhaps the future will find them equally interested in the standards of fire protection and the community economics of the whole fire problem. Surely there can be nothing but gain in having a Fire Chief who is fully informed as to the standard schedule for grading cities as to their fire defenses, who appreciates the significance of state loss ratio, and who can think in terms of the community cost of fire protection. Perhaps there is an obligation on his part to assume such a responsibility. The citizen naturally is interested in the amount of taxes and the amount of insurance premiums he pays for fire protection. In so far as fire losses control these contributions, the citizen normally must look to the city government and the Fire Chief for enlightened activity in his interest. Furthermore, the Fire Chief has responsibilities to those who are endeavoring to co-operate with him. He should be familiar with their objectives, talk their language, and be capable of constructive suggestion.

"The National Board of Fire Underwriters approximately sixteen years ago prepared a standard schedule for grading cities. What an excellent text book this would be for the Fire Chiefs. What splendid round tables might be held on its subject matter. Presumably, Fire Chiefs were consulted when these standards were first established. Should we not expect Fire Chiefs to continue to contribute to these fundamental standards of their profession? If they are, through professional association, to accumulate and organize the facts and principles of their profession, should they not build upon that which already exists and which has been tried and tested."

What the Chief, as an Expert, Can Do

Perhaps as was recently suggested to me, Fire Chiefs might cut the cost of local fire insurance very definitely by performing some of the work now left largely to untrained fire insurance brokers. Such savings might be utilized for the maintenance of a competent inspection and rating bureau, which could be made a definite department of the Bureau of Public Safety or the Fire Department with a view of co-operating with the established insurance rating bureaus.

So I would suggest that representatives of the cities, Fire Chiefs, insurance underwriters and those associations identified with fire protection, convene and pool their efforts in an attempt to solve one of our most serious national problems—the control of fire—in order that we may continue to enjoy the benefits of better community life and economic protection.

Surround Public With Best Safeguards

And finally, as all those essentials to life and welfare are so interwoven with each other, it behooves all those charged with the protection to life, supervision of wealth, trade and commerce, to get closer to their respective phases of the common problem, to the end that the public, both residential and transient, may be surrounded with the best safeguards the combined experiences of these public agencies may conceive and establish.

Shall there be a fire protection tax? Taxes for fire protection are very definitely in existence today. It might be advisable to give thought to abolishing the indirect taxes by establishing a formula for a single direct tax based on the fair and equitable participation of those whose interests are to be better served by making life and property more secure from fire and fire conditions.

[1]N.F.P.A. Quarterly, July, 1933.

Fireman Electrocuted at Two-Alarm Fire

While working at a two-alarm fire which broke out in a three-story brick building in the wholesale commission house district of Pittsburgh, Pa., a fireman came in contact with a rail which was making contact with a 2,500 volt line, and was instantly electrocuted.

A ladder was placed against a canopy which extended the full width of the building over the sidewalk. The canopy was attached to the building by a number of iron rods. Fireman Donnelly was first up the ladder with a hose line. As he reached the top of the ladder he grasped one of the iron supporting rods to pull himself from the ladder to the canopy. The rod was in contact with the 2,500-volt line. Without uttering a word, the fireman fell from the canopy to the street, which was twelve feet below, before firemen could break his fall. He was rushed to the Mercy Hospital, where he was pronounced dead.

Fireman Donnelly was forty-two years old and was a widower. He is survived by his mother and three daughters.

WILLIAM E. PATTERSON.

Fire Prevention Club Meets at Malden

Deputy Chief A. E. Miller, of the Malden Fire Department, presided at the second meeting of the Fire Prevention Club of Massachusetts which was held February 25 at the Central Fire Station in Malden. Fire Commissioner J. H. Hannan, of Malden, welcomed the visitors.

The following Executive Committee was appointed: Chief Joseph J. Kelley, Danvers; Chief Thomas A. Qualey, Medford; Deputy Chief Arthur L. Marshall, Cambridge; Captain E. A. Gerety, Everett; and Captain A. C. Maxwell, Reading.

The subjects discussed included fees for inspecting oil burner installations, rules and regulations governing tank trucks for transportation of inflammable fluids, storage of alcohol, and the improper actions of public insurance adjusters.

Among the speakers were Chief Kelley, Danvers; Captain C. F. Bell, Brockton; Chief John F. Cutter, Newburyport; Chief Frank Newman, Melrose; Chief William J. Dooling, Malden; Alfred L. Miner, Chairman, Fire Prevention Committee of the Massachusetts Safety Council; S. L. Burgher, New England Insurance Exchange; Deputy Chief P. J. Creedon, Quincy, and Lieutenant T. R. Munroe, Haverhill.

Luncheon was served at noon in the fire station. Motion pictures of Foamite and Alfite extinguishers in action were shown by Lawrence W. Carolan, Jr.

HARRY BELKNAP.

Eastern Chiefs to Meet June 21-22

At a meeting of the Board of Directors of the Eastern Association of Fire Chiefs, held at the Hotel Pennsylvania, New York City, on March 2, it was decided to hold the annual Convention of this Association at Ocean City, N. J., on June 21 and 22. The New Jersey State Fire Chiefs Association will meet in the same city on June 20, and members of each organization will be invited to attend that of the other.

Headquarters at Ocean City will be the Flanders Hotel, a large modern hotel of sufficient size to handle the combined meeting with ease.

A very excellent program is being prepared, of which the Round Table feature will be carried out in the same effective manner as at past conventions. Cooperation between large and small departments, the handling of hazards similar to that represented by the Kerns Hotel in Lansing, and other current subjects will be included in the program.

The Eastern Association of Fire Chiefs is showing renewed vigor, judging from the enthusiasm displayed by the Directors, and the work being done by the organization insures a highly successful convention at Ocean City.

Among those present at the meeting were the following: Chief Ross B. Davis, Philadelphia, President; Deputy Chief John J. T. Waldron, New York City, Vice-President; Chief Charles E. Clark, Wayne, Pa., Secretary; Charles H. Fisher, Consulting Engineer, New York; Chief Charles Greenfield, Arlington, N. J.; Ex-Chief Millard Tawney, Harrisburg, Pa., Director; Chief Wm. J. Lutz, Wilmington, Del., Director; Ex-Chief Harry Francis, New Brunswick, N. J., Director; Chief Sam Conver, Ocean City, N. J.; Chief George R. Lindsay, Hagerstown, Md., Director; Mr. Hoffman, representing the Ocean City Convention Committee, and Fred Shepperd, Editor, FIRE ENGINEERING.

Effective Drills for Firemen

Besides the holding of a four-day intensive drill school during the summer, the State Firemen's and Fire Marshals' Association of Texas, under the direction of Dr. H. R. Brayton, Professor of Organic Chemistry of the State A. & M. College, and with the cooperation of the college, there is sent out to each Fire Department of the state a quarterly series of "Suggested Drills" for firemen. There is reproduced herewith part of one of these drills.

THE necessity and importance of proper training for members of Fire Departments—whether paid or volunteer—is now recognized by all Fire Chiefs throughout the land. It is not, however, always possible for small cities and villages to train their firemen as they should be, owing to circumstances beyond their control—such as, for instance, lack of funds to be devoted to the purpose. A splendid work along these lines is being accomplished in the state of Texas by the State Firemen's and Fire Marshals' Association, through the efforts of Dr. H. R. Brayton, Professor of Organic Chemistry of the Texas Agricultural and Mechanical College at College Station, Tex. This includes a School for firemen, held annually at the college in the summer and covering four days of intensive firemanic study.

In connection with the work of the School there is issued quarterly to each of the 486 Fire Departments of the state a series of Drill Sheets for the instruction of the members. Besides the concentrated four-day drill session at the college each summer under direction of drillmasters from the larger cities, a full time instructor, who is an experienced Fire Chief, is on the road throughout the year, visiting these Fire Departments, collecting ideas and assisting the local Chiefs with their problems.

At the last meeting of the School for Firemen, held July 16 to 18, 1934, at the college, there were enrolled 467 men, representing 195 cities of Texas, the largest classes ever held by the School.

The following are excerpts from a sample of the quarterly "Suggested Drills" issued by the School:

Suggested Drills—January 1, 1935—Firemen's Training School

Pump School

1. Duties of an engineer, or pump operator; care of apparatus, etc.
2. Give an explanation of how a pump lifts water. (Questions 4, 5, 6.) This can easily be explained by using a bottle of red soda water, and a straw; the straw represents the hard suction, the soda water the source of water supply, and the mouth represents the pump. Remove air from the inside of the straw, place tongue to end of same showing how air pressure holds water up in the straw. Then put a small hole in the straw showing how suction leaks impair the efficiency of the pump. (The value of good gaskets, tight connections, etc.)
3. Name different parts of pump, the value of each, travel of water, etc. Particular stress should be laid to setting a relief valve or governor, its operation, care, etc.
4. Questions and Answers.
5. Quick mental calculation method of hydraulics. The value of different size nozzle tips. How to estimate the amount of hose laid from pump.

Pump Evolutions (Pump Practice)

1. Lay two lines of hose from hydrant.
2. "Spot" pump. (Preferably at draft.)
   Much practice is required for quickly "spotting" a pumper for connection to hydrants.
3. Connect up pump and put same in operation. (Questions 22, 26, 28, 29, 40, 31, and 38.)
4. Demonstrate and explain the following:
   (a) Proper pump speed or ratio. (Question 25.)
   (b) Churn valve. (Question 24.)
   (c) Relief valve or Pressure Regulator, setting, etc. (Questions 17, 18, 19, 20, 21 and 32.)
   (d) Relief valve or Pressure Regulator not working. (Question 35.)
   (e) Valve of operating auxiliary cooling system. (Question 41.)
   (f) Discharge Gates. (Questions 10 and 11.)
   (g) Gauges. (Questions 12, 13, 26 and 42.)
   (h) Bleeder cocks. (Questions 44 and 45.)
5. Shut down pump and continue hydrant pressure through same. (Questions 37 and 28.)
6. Test for water leaks. (Question 8.)
7. Dry vacuum test. (Question 9.)

Pumps—Their Care, Maintenance, and Operation—Questions and Answers

1. *Question*—What is the first as well as the last and most important care of a fire apparatus?

Answer—To have it ready and in a condition to respond to an alarm of fire at all times.

2. *Question*—What is meant by the term "by-pass" as applied to the fire pump of a pumping engine?

Answer—The term "by-pass" alludes to a waterway or channel between the discharge and suction side of a fire pump of the positive displacement type, which is controlled by the action of an automatic valve or a valve operated by hand.

3. *Question*—What safety devices are fire pumps of modern pumping engines equipped with?

Answer—A pump of the positive displacement type is equipped with a churn and relief valve, while the centrifugal type pump is equipped with a water pressure regulator which is commonly called a governor.

4. *Question*—How is a vacuum formed?

Answer—A vacuum is formed by removing all the air.

5. *Question*—When starting to draft water, is vacuum or suction first created?

Answer—Suction must be started to remove the air from the pump and suction hose before the pump can create a vacuum.

6. *Question*—What causes water to enter the pump when drafting from a level lower than the pump?

Answer—When the air or atmospheric pressure, is removed from the suction hose and suction side of the pump, atmospheric pressure on the body of water forces water into the pump; in other words, by creating a vacuum atmospheric pressure will force the water into the pump when the suction hose is submerged in water.

7. *Question*—How far will a pump in good condition draft water at sea level?

Answer—Approximately twenty-six feet at sea level, and there is almost no limit to horizontal distance if connections are tight and suctions are right diameter.

8. *Question*—What is the best method of finding leaks in suction hose?

Answer—Connect up the suction hose to a hydrant, or reduce same to a garden hose connection and put water pressure on it, and leaks will show up.

9. *Question*—How would you make a dry vacuum test on a rotary pump?

Answer—See that both suction caps are tight, allow air to discharge by opening one discharge gate motor running idle, close churn valve. If pump is in perfect condition you will

note on vacuum gauge that it registers from ten to fifteen inches. If you are unable to get any vacuum, the following may be the trouble: the drain cock on the bottom of the pump may be open, the drain cock on the bottom of the gauges may be open, or relief valve plunger may be open.

10. *Question*—Do the discharge gate valves on the pump of a pumping engine require any attention?

Answer—Yes, the discharge gate valves should be lubricated after each time the pump has been in use.

11. *Question*—How should the discharge gates be closed?

Answer—Shut off the discharge valve slowly, in all cases of handling water pressure pumps and machinery in general step the pressure up or down slowly, this is to avoid causing water hammer in the main. Damage to the hose from excess pressure let in with sudden shock and in the case of motors, pumps and machinery to avoid damage to moving parts.

12. *Question*—Why are two gauges used on pumping engines?

Answer—One straight pressure gauge to indicate the pressure on the discharge side, the other as a compound gauge to indicate the vacuum in inches.

13. *Question*—Why are centrifugal type pumps equipped with two compound gauges?

Answer—This is because the vacuum is created on the entire inside of the pump as well as the suction hose. When pulling vacuum on same with priming pump, if either or both gauges were straight pressure gauges they would be put out of order by vacuum created.

14. *Question*—Describe the action of the rotary gear type pump?

Answer—Water enters the pump on the suction side, and flows to the rotors, and as the rotation of a rotary type pump is in an upward direction at the outer side of the rotors, and in a downward direction at the inner side where rotors are meshed, the water is carried upward in the tooth spaced at the outer side of the rotors; as the rotors are drawn into the mesh at the inner side, this water is displaced from the tooth, spaced, and forced upward into the discharge chamber. From here it is forced upward to the lines of hose; as the rotors are drawn out of mesh, tooth spaces are refilled by water from the lower, or suction chamber, and the operation is repeated. The rotary type pump is provided with a churn valve which must be closed in order to build up water pressure, it is also provided with an automatic relief valve. If all discharge outlets are closed, including the churn and relief valves, the water pressure will stall the motor when the pounds pressure per square inch of water reaches the pounds pressure per square inch developed by motor, less the friction and power necessary to operate the pumping engine; this is because the pump is of the positive displacement type.

15. *Question*—Can a fire pump of the positive displacement type be used for anything but pumping water?

Answer—It can be used for pumping air and gas as well as water. This is beneficial for drawing impure air or gas from manholes where men have been overcome.

16. *Question*—Can a gear type pump create a vacuum?

Answer—Yes, owing to the rotary type pump being of the positive displacement type, it can create a reasonable vacuum.

House Burned as Result of Freak Accident

A cottage in Los Angeles, Cal., was badly damaged as the result of a strange combination of incidents. Gas was leaking from a main in the street. An automobile passed over the leaky main and as it did, the car ignited the gas. The flames traveled back into the cottage and slightly injured the occupants. The photograph shows the burst main being repaired.

17. *Question*—What would result if no automatic relief valve was employed and nozzles were shut off?

Answer—The motor would either stall from excess load or the line of hose would burst, before the operator could open the churn valve.

18. *Question*—Briefly describe the flow of water through an automatic relief valve when same is in operation?

Answer—On the type I will describe, the water pressure lifts a small valve known as the pilot valve; this permits a small amount of water to flow through a small channel to the top of the plunger valve, and when the pressure of the water on the discharge side of the pump reaches the pressure at which the relief valve is set to relieve at, it forces the plunger valve down enough to allow water from the discharge side of the pump to flow directly into the suction side through a short pipe connection. When the water pressure on the discharge side of the pump is reduced below that at which the relief valve is set to relieve at, this plunger valve automatically closes through the tension of the plunger spring, and communication from the discharge side to the suction side of the pump ceases, until the water pressure again forces the plunger valve down.

19. *Question*—Should the automatic relief valve pound or throb and the hose jump when the nozzles are shut off, what is the trouble?

Answer—It is an indication that the plunger rod has too much travel or that the small bleeder cock on the side of the pilot valve chamber is open too far.

20. *Question*—Should the pressure on the pressure gauge rise, and the motor seem to slow down when the nozzles are shut off, what is the usual trouble with the automatic relief valve?

Answer—The trouble indicates that the plunger valve does not have enough travel; that is, it does not open far enough to permit sufficient water to pass from the discharge to the suction side of the pump.

21. *Question*—What is necessary in order to permit an automatic relief valve to work properly?

Answer—The relief valve must be set correctly and it must be properly lubricated.

22. *Question*—If you started to draft water with a positive displacement pump and could not, where would you look for the trouble?

Answer—After trying the churn and relief valve, and seeing they were shut and being assured that one discharge gate was open, I would look for air leaks at the following places: drain cocks may be open; suction cap or caps not in use, may not be tight; or may have poor gaskets causing leak or the pump may have to be primed because it is badly worn.

23. *Question*—What are air chambers on positive displacement type pumps used for?

Answer—They are used to cushion the flow of water preventing water knocks, and causing a steady even flow of water.

24. *Question*—What is a churn valve and what is its principal object?

Answer—A hand operated churn valve is in reality an auxiliary relief valve, and its purpose is to relieve the water pressure on the discharge side of the pump when desired.

25. *Question*—In operating a rotary pump when should the pressure speed or the capacity speed be used?

Answer—"Pressure speed" is used and considered where pump is used at low speed for high pressure or for one line hose either long or short. "Capacity speed" or high speed is for more than one line of hose whether long or short leads, except in extreme cases, where exceptionally long lines of hose using small tips in which case "Pressure" or low speed.

No definite instructions can be given as to what pump transmission speed should be used. The length of line of hose, the size of nozzle, the pressure required and so on, are all variable factors which will affect the action of the motor; in general it can be said that the motor should be run in the ratio which gives it the lowest speed, and if it starts to labor or run unevenly owing to the speed being too low, it is time to shift to another ratio. This depends entirely on the judgment of the operator, and when he becomes familiar with the operation of the pump and motor, he will experience no difficulty in knowing at what speed he should run.

26. *Question*—Why should you never pull a vacuum on a hydrant?

Answer—Never pull a vacuum on a hydrant. If it cannot supply as much water as the pump needs close the throttle until three to five pounds pressure is maintained on the suction gauge. Pulling a vacuum on a hydrant may damage a weak water main and besides little additional water can be obtained.

27. *Question*—Is it a good policy to run a pump with all nozzles shut off?

Answer—It is not a good policy to run a pump at a pressure of more than fifty pounds for any length of time with the noz-

zles closed, because pressure stored in water is energy or work done in the form of heat. If it is necessary to do so open one of the discharge gates to prevent heating, by allowing a constant change of water.

28. *Question*—If the pump pressure is no longer required, can the hydrant pressure be continued through the pump?

Answer—Yes, by disengaging the pump and opening the churn valve, and allowing the water to by-pass into the discharge chamber and out.

29. *Question*—Can a centrifugal type pump pull a vacuum?

Answer—On account of the centrifugal type pump being of the non-displacement type it is impossible to draw a vacuum with this pump.

30. *Question*—What is necessary in order to draft water with a centrifugal type pump?

Answer—It is first necessary to remove the air from the pump and the suction hose by the use of a separate pump known as the priming pump; after this is done, this centrifugal type pump will maintain a vacuum.

31. *Question*—Should you open a discharge gate on a centrifugal pump to permit the air in the suction hose and pump to escape, when starting to draft water?

Answer—No, the priming pump exhausts the air from the fire pump and suction hose; if a discharge gate was open, it would permit the air to enter the pump at that point, and the result would be that the priming pump could not create a vacuum.

32. *Question*—How does a pressure regulator or governor operate on a centrifugal pump?

Answer—By the use of an automatic governor that is fitted to centrifugal pumping engines and actuated by the discharge pressure in the pump, it is possible to shut off the nozzles together or separately, without materially affecting the pump pressure. The governor automatically operates a second butterfly valve located in the intake manifold directly above the regular throttle valve, slowing down the motor as the streams are shut off and maintaining the pressure in the pump at which the governor is to operate. Upon opening the nozzles the governor works in a reverse manner, speeding up the motor to take care of the added load. This action is entirely automatic.

33. *Question*—What is meant by pump slippage?

Answer—By pump slippage is meant the % of water which slips past the pump gears, or past the centrifugal pump impeller and gets back into the intake side of the pump; for instance, if a pump should discharge one gallon of water per revolution but is found by test to discharge only 0.9 gallons, then the slippage is 10%.

34. *Question*—What is meant by the positive displacement of the rotary pump?

Answer—Positive displacement fire pumps have a definite capacity per revolution; that is, every time the pump turns over it delivers a given quantity of water into the hose line.

35. *Question*—Why should a relief valve or automatic pressure regulator be kept in the very best of condition? How does its action affect the men working on the end of the line of hose?

Answer—This answer can best be pictured in this manner: Imagine two lines of hose from a pumper, both carrying strong pressure. Suddenly conditions demand that one line of hose be shut off at nozzle (instantly). What happens? A pump maintaining a two line output of water, stopping the flow of water through one line of hose, diverts a great pressure to the remaining line, causing the hose and nozzle to whip or jerk, and placing the men in grave danger of being thrown from the ladder, sill or cornice, wherever they are working. That period of diverting pressure may be brief, but it is long enough to cause trouble.

36. *Question*—What care should be given pressure and vacuum gauges?

Answer—Gauge cocks should always be closed down to a point just sufficient to give an easy steady, reading at the gauge without needle vibrations.

37. *Question*—Before closing down a pump, what should be done?

Answer—Throttle down to a very low speed before throwing clutch out. If clutch is thrown out before engine is throttled down, the engine will race and break some of the valve mechanism.

38. *Question*—In drafting water with a centrifugal pump, what precautions are necessary?

Answer—Priming pump should be used first with the discharge gates closed, then after water has been lifted and priming pump disengaged, main pump must be engaged and discharge gates opened.

39. *Question*—What precautions should be taken in starting to draft water with a rotary pump? Where would you look for leaks? What consideration would you give the suction?

Answer—*Be sure there are no leaks in the suction line.* Leaks in the suction line will permit air to get in. This will reduce the vacuum and may entirely destroy the vacuum. The slightest leak will cause a jerky or intermittent stream, and cause a rattling in the pump and knocking or jarring the machinery. Even a small leak will interfere with drafting or picking up the water and a leak of any considerable size will make drafting water impossible.

Care must be taken that all connections are tight so as to permit pumps to create a vacuum. Strainer should be placed on end of suction and rope fastened to same for inspection of strainer. In using two or more lengths of suction, rope should be used to relieve strain on couplings, rope to be fastened on suctions below couplings and anchored to available support; chaffing blocks or guard to be placed under same where it is likely to wear. If nothing else is available, rope can be fastened to pumper for anchor.

40. *Question*—After starting to draft water with a rotary pump, what precautions should be observed?

Answer—Run slowly when letting clutch in. Then speed up for two or three seconds to pick up the water. If water is not flowing after five seconds of fast running, slow down and stop pump and look for suction leaks.

As soon as water starts to flow, slow down the pump, until all kinks and short bends can be taken out of the hose and a steady stream free from air is coming out of the nozzle. The throttle can then be opened wide enough to give the desired pressure or volume of water.

41. *Question*—Just after starting to draft water with a rotary pump, what should be done?

Answer—After the desired speed and pressure has been reached, gradually open up the valve on the pump which regulates the flow of the cooling water into the motor.

Don't open this valve too wide or a dangerous pressure may be built up in the radiator.

If too much cooling water is run through the cooling system of the engine, the engine will keep too cool and may not give satisfactory results. The water running out of the exhaust should be just about as hot as you can stand on your bare hand or 180°.

42. *Question*—Why should an engineer understand the use of a compound gauge?

Answer—It is important for a man to note how much hose has been laid to the fire from the pumper, and to use a size nozzle, in conformity with the nature of the fire, and the friction laws of the hose. It is difficult for some of the men to grasp the purpose of installing a compound gauge. In using with an inch and a half nozzle, a hose line of between a thousand and fifteen hundred feet length, the average engineer wouldn't attempt to give a fair size fire stream without considering how the supply at the hydrant or the size of the nozzle lengths of hose line enters into the calculations. They have a very serious habit of pulling the compound gauge down to ten or twenty inches vacuum. Then they wonder why the motor is racing or the resulting stream is unsteady with occasional pops of air as it leaves the nozzle. Always have the pump operating so that the gauge shows about five pounds pressure on the compound side; a steady motor and stream will be the result.

43. *Question*—When a suction is changed on the engine for any purpose, what should the engineer do?

Answer—When a suction is changed on the engine for any purpose, see that it is tested by coupling to the engine inlet, and to the nearest hydrant to see that the thread fits properly. The threads must be closely examined to see that they have not been burned in any way. Engineers are strictly responsible for seeing that the proper suction is on the engine at all times.

44. *Question*—How would you relieve the back pressure in a line or lines of hose, when same is laid uphill or in upper stories of building, and you are ordered to pick up?

Answer—Bleeder cocks are provided on the pump for that purpose; they open into the discharge outlets on the outside of the discharge gate valve.

45. *Question*—Have bleeder cocks any other use besides draining lines laid up-hill, etc?

Answer—On positive displacement type pumps it is well to have one bleeder cock open when creating vacuum, so the pump will not have to exhaust the air through an entire length of hose; also, the hose might be kinked near the pump, not allowing the air to escape.

Some departments carry a small length of garden hose to be attached to bleeder cock for cooling down bearings that have become overheated, wetting down around the pump, and as an auxiliary cooling system to the radiator.

46. *Question*—What are some points that should be considered regarding an operator's qualification and training?
Answer—He should have a cool temperament, should have mechanical experience and interest, should be a safe and careful driver, should have a general knowledge of fire department hydraulics, and should understand thoroughly the principles and design of the pump. Operators should be trained to pump from draft as well as from hydrants. Operators who show proficiency in pumping from hydrants often seem lost when occasion requires pumping at draft. This is due to lack of training in this respect.

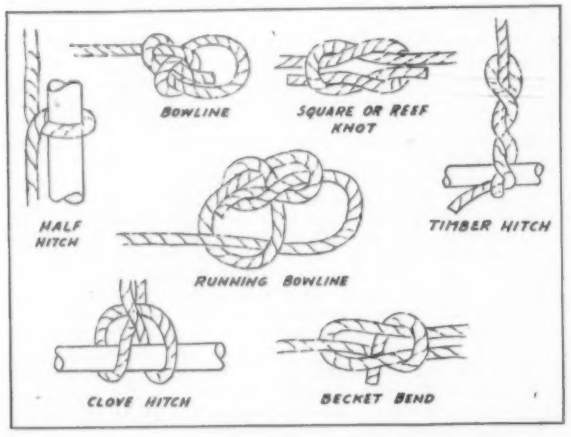
Suggestions for Drills With Knots and Hitches

1. Adopt the knots and hitches most suitable for your department. Too many knots will confuse the men.
2. Instruct every man in your department in tying the knots and hitches properly and with as much speed as possible.
3. Be sure every man knows the proper use of all the knots and hitches used in your department.
4. In drills with knots and hitches stretch a long rope between two trees or poles or across the station and use short lengths (about 8-10 feet) for practice knots.
5. Never carry a charged line more than three stories above the ground with rope and roller unless you have plenty of man power.
6. In running these drills, try and teach under some of the same handicaps you may encounter in fighting an actual fire.

Standard Knots and Hitches

The knots and hitches illustrated herewith are commonly used as follows:

1. The clove hitch is used in raising or lowering small tools, extinguishers and sometimes hose lines.
2. The Timber Hitch is used in raising or lowering dry lines and for toeline-anchoring to a stack or chimney.
3. The Half Hitch is used in connection with the Bowline and Clove Hitch.
4. The Single Bowline is used for ladders and small tools.
5. The Running Bowline is used when sending a charged line to upper floor or roof.
6. The Single Becket Bend is used in splicing two ropes together.
7. The Square Knot is used in first aid bandaging.



Review Questions With Knots and Hitches

1. Would you use a Timber Hitch on a ladder?
2. When would you use the Single Becket?
3. Is the Timber Hitch used in raising or lowering dry lines?
4. Should a Clove Hitch be used on small equipment?
5. What knots are used in sending a charged line to top of building?
6. What use is made of the Square Knot?
7. Is the Single Bowline the proper knot to use in sending a ladder to the roof?

Miller Chief of Hannibal, Mo.

Elmer R. Miller, a member of the Hannibal, Mo., Fire Department for twenty-five years, has been advanced to head of the department.

He entered the service in 1911 as a driver of horse-drawn apparatus. In 1918 when the department was motorized he was promoted to Master Mechanic. He held this post until he was promoted to Chief.

Elmer R. Miller

Northwest College to Meet

A four-day session of the Northwest Fire College will be held at Spokane, Wash., starting on June 19. Attendance is expected from the membership of the Washington State Firemen's Association, Washington State Fire Chiefs' Association, Idaho State Firemen's Association, British Columbia Provincial Fire Chiefs' Association, and special delegations from the Firemen's Association of Montana and Oregon.

It is expected that the meeting will be the most extensive ever held in that section of the country.

Kentucky Holds Short School

A three-day short school for firemen was conducted at the University of Kentucky, Lexington, February 12-14. There were 131 firemen registered from forty-three municipalities.

A. N. May, State Supervisor of Trade and Industrial Education spoke on "Training Men in Fire Fighting."

Efficient apparatus for the small town department was described by Clarence Goldsmith, Assistant Chief Engineer, National Board of Fire Underwriters, Chicago. He gave advice on the purchase of pumps and equipments. He also spoke on "Hydrants."

S. G. Render, Assistant Chief, Louisville, gave a talk on "Maintenance of Fire Apparatus." He advocated cleanliness and proper lubrication of motors.

Rodman W. Keenon, Attorney for Lexington Fire Department, spoke on "Law and the Fireman." He said that it was his opinion that firemen have the right to break into liquor warehouses even though no government officer was present.

"Arson and Arson Irregularities," were described by W. Malcolm Brown, State Deputy Insurance Commissioner, Lexington.

Experiments and demonstrations on the chemistry of fire were given in the university laboratories, by Prof. John R. Mitchell.

Chief J. W. Just, Western Actuarial Bureau, Chicago, demonstrated the effectiveness of carbon tetrachloride, and other forms of fire extinguishers.

Albert Clements, Engineer, Kentucky Actuarial Bureau, spoke on the subject of "Exposures and Fire Department Operations."

The rules and regulations of the average Kentucky volunteer fire department were reviewed by Russell Dyche, London, President Kentucky Firemen's Association.

A talk on "Electrical Hazards," was given by Roy Chanaberry, Manager, Kentucky Actuarial Bureau. W. S. Lipscomb, Secretary, Lexington Fire Department, spoke on "Ventilation." Other speakers included John Kruisenklans, Fire Inspector, Louisville, and J. B. Allen, Safety Director, Hazard Coal Fields, who spoke on "First Aid and Life Saving."

A practical but uncalled for demonstration of department routine was provided when a large pumper broke through the floor of the service building where a demonstration was under way. Firemen spent thirty minutes in extricating the pumper.

THE ROUND TABLE

For Practical Discussion of Current Fire Department and Fire Management Problems

SAFEGUARDING SHOPPERS AT CHRISTMAS SEASON

GAUDY, temporary decorations, tinsel and cotton, special illumination and evergreen trees, are all arranged by merchants during the Christmas holiday season to attract the numerous shoppers who are seeking suitable gifts. From the business standpoint, it is the season of concentrated buying.

In preparation for this event, merchandise starts to arrive some time in November, suitably boxed or packed in soft, shredded material. All this excess packing material must be disposed of expeditiously so as not to expose this highly flammable material in the store for a very long time. And during the buying rush, preparations should be made for the daily disposal of such accumulated waste.

Merchants must be schooled in the need of safeguarding the lives of the shoppers, and their employees must be educated in the importance of observing all the fire prevention regulations. It is a season of great responsibility for the Fire Department, for a fire in any of the large local stores becomes of greater danger, due to the added hazards, augmented stocks, and increased number of shoppers. The alert Chief will start planning well in advance to prevent such dangers, in a manner similar to a keen military strategist.

The problem in full that is treated in this issue is printed in the box on this page. It is a continuation of the discussion in the previous issue. In the box on the following page is the problem that will be presented in the next issue. Should you have some comments that you would like to add to the next discussion, you are invited to write to the "Round Table Editor," FIRE ENGINEERING, 24 West 40th Street, New York, N. Y.

Discussion of the Question

John F. Moroney, Chief, Meriden, Conn.: Inspections were made twice by members of our Department during Christmas week. The member making inspections of stores instructed each and every owner or manager that accumulation of holiday packing materials hold dangerous fire possibilities, and all scraps should be removed twice daily. It is especially hazardous to allow such rubbish to pile up under counters and stairways and at the base of elevator shafts. Large "No Smoking" signs should be displayed throughout the store, and this rule is to be rigidly enforced. The merchants were also warned that aisles should be kept clear, and that fire exits should never be blocked. Citizens were warned by this department through our daily newspapers asking them to observe the Christmas holidays in a safe manner. The warning consisted of a few don'ts and safety suggestions such as:

"Don't use cotton batting for decorations on Christmas trees. Don't use candles for window decorations. Electric candles are more satisfactory and safer. Don't give children cheap electrical tops or cheap motion picture machines. Be careful not to overload electric circuits in your houses. Christmas trees dry rapidly. When they are set up, the base should be set in a pan of water. Remove trees and decorations as soon as possible after Christmas."

Albert Herring, Chief, Murphysboro, Ill.: Through the various Civic Organizations in Murphysboro, we insist that the citizens use common sense and practice safety methods in all decorations which are used during the Holiday season. A committee is selected headed by the Chief in meeting with organizations which can and will get the message to the people, especially to business men and into homes, and talks are given to achieve that goal. These little talks point out the many hazards which are brought into the home during the holidays. The churches also made mention of safe-guarding the home against fire. In our campaign the motto is "No fires in Murphysboro during the Holidays." We have accomplished this very thing in our city during the past four years.

To prevent the accumulation of paper, excelsior, rubbish and empty boxes we speak to the merchants and ask them to take care not to place the rubbish in the basement or back rooms, and to place it where it can be picked up and hauled away. The Department furnishes the truck and men to remove the rubbish free of charge. This method has proven very satisfactory.

Through the cooperation of the Merchants' Association, no wax candles are offered for sale to the public especially to those living within the city limits. We also insist that no Christmas trees be lighted in any church, school or public building unless a permit is given by the Fire Department, and that all such lighting be carefully inspected. All the lights, of course, must be electric.

Fred J. Washburn, Chief, Auburn, N. Y.: We issued warnings in newspapers against Christmas fire tragedies. They were worded as follows:

"During the season, as Christmas approaches, everyone is busy with Yuletide preparations. Trees soon will be in place and other decorations appropriate to the occasion will be distributed throughout homes, stores, churches, schools and everywhere, and unless great care is exercised, the added fire hazards, which accompany such decorations and unusual activity will cause unnecessary pain and sorrow.

"Standard wire, fuses, plugs and sockets and sets of Christmas tree lights should be purchased and in addition all extra wiring should be done by a licensed electrician. Don't hang wires over nails. It is folly to use inflammable decorations for trees and rooms; incombustible decorations are now on sale. All paper and tissue wrappings from packages should be disposed of at once.

"Toys—Instruct children carefully in the use of toys, especially electrical toys, and watch them until certain they know how to operate the toys properly. Avoid toys requiring an alcohol or kerosene lamp, as a child cannot be expected to handle such a hazardous article with safety. Flimsy motion picture machines

HERE IS THE PROBLEM

What particular inspections or regulations have you followed to safeguard lives and properties at Christmas time?

In what way have you prevented the accumulation of rubbish and boxes in stores during the holiday shopping rush?

What have you done to check possible fires by Christmas tree candle lights?

should be avoided, as children may borrow or rent inflammable film and attempt to project them. This film is extremely dangerous as it is made of nitrocellulose which burns with a flash and gives off deadly fumes. Only machines or film bearing the approval of Underwriters Laboratories should be used.

"Smoking—In rooms decorated for the holidays and where excited children are playing, smoking is apt to be dangerous; considerate smokers will use another room.

"Candles—Never use lighted candles for decorations. They are especially hazardous on trees and on window sills where curtains may be blown against them.

"Trees—Set tree securely and at some distance from lighting and heating fixtures. A new type of stand which holds the butts in water keeps the trees greener, otherwise the heat of a house dries out a tree and soon makes it a real hazard. A good precaution is to take down the trees and dispose of them a few days after Christmas.

"Santa Claus—Don't let old Kris Kringle be a fire hazard. Often times his costume or 'whiskers' would burn furiously if accidentally ignited. This would hardly be fair to the old gentlemen. Costume and cotton beard can be made safer if sprayed with a solution of waterglass which is obtainable at all drug stores."

Accumulation of boxes in stores was kept at a minimum during the holidays by a constant inspection of all places of business in the inner district as well as the outer ones.

These inspections covered the time while the unpacking was in progress and during the busy period.

August G. Derra, Chief, Schenectady, N. Y.: Special inspections of business places and public amusement exits are made during the Holiday season. Publicity is given special precautions that should be taken regarding fire hazards during this time.

We also prohibit the use of candles on all Christmas trees.

The Fire Prevention Division sends out inspectors to all business places and gives orders to the effect that all papers, rubbish, etc., be removed from the rear of counters and special collections are made by the Bureau of Ash and Garbage.

Thomas A. Qualey, Chief, Medford, Mass.: We warn persons against the danger of flimsy decorations or lighted candles through printed notices in the daily newspaper.

Rigid inspections are made to see that all rubbish is removed from the premises of stores, etc., every day by the city during the holiday season and if the one collection by the city is not enough it must be removed by private trucks.

There are not many candles used on Christmas trees and if a case was reported that someone was using candles on a Christmas tree an officer from the Fire Department would be sent to the premises to notify the occupant to discontinue their use under the Fire Prevention Laws.

Wm. H. Wayand, Chief, Scotia, N. Y.: Special inspections were made just previous to and immediately after the holiday rush in all the business places and this has been found to be very beneficial in eliminating hazards generally found at that time of the year.

An article is published in our local papers advising the general public of the dangers pertaining to Christmas tree lighting and other forms of decorations.

Henry Esler, Chief, Kaukauna, Wis.: Two weeks before Christmas a clean-up inspection was held in which almost all the men in the department took part. Inspection cards were used and the business places were given a week to have everything ignitable removed. When the week was up the Chief inspected all the places to see if his instructions were carried out.

Accumulations of boxes and rubbish were disposed of in various ways. Boxes and papers that would burn were ordered burned daily. Rubbish was removed to alleys and there was picked up by special city trucks.

Kaukauna is more commonly known as the "Electric City," therefore, there are very few homes in which candles would be used on Christmas trees.

Maurice Keating, Chief, Rochester, N. Y.: Close inspections of all department stores and other stores patronized by large numbers of people are made during the Christmas season.

The people are warned through the press not to use candles on the trees and to dispose of all inflammable material. They are also advised to get rid of the Christmas trees as soon as possible.

N. E. Booth, Chief, Southold, N. Y.: No particular inspection or regulation at Christmas time is made other than having the apparatus and personnel of the department in condition to respond to an alarm quickly and effectively.

All rubbish is disposed of daily, either at the town dump or elsewhere. There is no accumulation.

The risk of Christmas tree candle lights has been practically eliminated by the use of electric bulbs, which are comparatively safe. Fortunately this department has never responded to a Christmas tree fire.

HERE IS THE PROBLEM FOR THE NEXT ISSUE

What is your opinion concerning the centralization of the Fire Department; that is, having all companies at one point?

In what way do you believe it will result in better or less efficiency?

Do you believe such a plan would be desirable for a volunteer department? Why?

George Ruey, Chief, Canton, Ill.: We warn the public through the press of the danger of inflammable decorations placed on light bulbs or close to open flames. We also make inspections of schools and churches where they have Christmas entertainments.

We make inspections of all business houses and insist that they keep all boxes, excelsior and waste paper cleaned up. Most of our business men cooperate. We do not permit the use of candles on Christmas trees.

James T. Doherty, Chief, Norwood, Ohio: Firemen visited stores and advised merchants to get rid of accumulated rubbish as soon as possible during the Christmas rush. We run Christmas warnings in the local papers.

C. P. Loller, Chief, Hamden, Conn.: We send firemen around to inspect stores during the holidays. The residents of the town of Hamden are warned through the press, each year before Christmas, of the dangers of Christmas tree candle lights.

Frank Newlin, Chief, Coatesville, Pa.: We have an ordinance passed by the City Council forbidding candle light services. We also forbid smoking in buildings where a large number of Christmas trees are on display. We place numerous articles in the paper to warn the public against the numberless fire hazards created by Christmas decorations.

Local merchants are required to dispose of all accumulations of boxes and rubbish once every twenty-four hours.

Dr. F. Waismske, Chief, Marshfield, Wis.: Throughout the Christmas season warnings are printed daily in our local newspapers referring to hazards incidental to the crowded stores, etc.

We usually appoint a poor man to go to the stores twice a day to pick up the boxes and paper and in payment for this service he keeps the boxes and paper. He does a very good job of it. He works under the Chief's orders.

We advise the people not to use candles for Christmas tree decorations, as it is a very dangerous practice. If they have no electricity, they are advised to use electric lights with power supplied by a battery, such as an automobile battery.

Ward Wantz, Chief, Anderson, Ind.: We make daily inspection of the downtown district at Christmas time and also broadcast weekly over our local radio station. We insist that all packing papers and boxes be removed at once.

We recommend the use of electric lights instead of candles and also urge great care in the installation.

H. M. Serle, Chief, Fairmont, Mont.: To minimize the dangers of Christmas tree fires, we use the columns of the local papers previous to Christmas week. We advise the general public of the danger of the wax taper and cotton. We also warn the public against cheap grades of lights.

George M. Kellogg, Chief, Sioux City, Iowa: We make inspections during the Christmas holidays and we call at-

tention of the public to the danger and give instruction and advice through the press.

We make frequent inspections and warnings and keep a close check-up on the disposal of rubbish and papers. We do not permit the use of lighted candles to decorate Christmas trees.

Edward W. Gieselman, Chief, Syracuse, N. Y.: We run an article in all newspapers covering the subject of Fire Prevention during the Christmas Season. We also send uniformed men to make inspection of department stores. They hand a letter to the manager, with the following contents:

"Each year at this time everyone who is fire prevention minded thinks of the added hazards which invite fires around Christmas trees and holiday decorations. Accordingly, the Bureau of Fire and the Department of Public Safety, desiring to lend every aid toward the safety of individuals and the protection of property, is issuing a warning so that such fires may be avoided through exercising care and caution.

"In the department stores and other shops which are dangerously crowded during the holiday season, it is especially important that Christmas decorations of an inflammable nature should be avoided and that all temporary wiring for electric lighting or power should be installed by expert electricians and inspected.

"All circuits should be properly fused and should not be overloaded. The greatest care should be exercised to prevent incandescent lamps from coming into contact with natural or artificial leaves, paper ornaments and streamers and other inflammable materials. Paper shades should never be used. This is true of window decorations as well as those included in the store.

"Accumulation of holiday packing materials holds dangerous fire possibilities and all scraps should be removed twice a day. It is especially hazardous to allow such material to pile up under counters and stairways and at the base of elevator shafts.

"We ask that you make it a policy to keep all aisles and fire exits clear and unobstructed."

Elmer J. Brown, Chief, Binghampton, N. Y.: The department doubles the company inspections in the business district during the Christmas holidays, and company commanders make a thorough check-up of conditions at the closing hour.

The Fire Marshal keeps in close touch with trucking companies removing rubbish and boxes, cartoons, etc., and insists that all rubbish be removed at the close of the day's business. Company commanders checked on this condition between the hours of 6 and 8 p.m.

The underwriter's remarks on the use of candles were published in the local papers and as a result there were no fires from such cause.

J. J. Kuplic, Chief, Manitowoc, Wis.: During the Christmas time we publish articles, and give talks instructing the public in the best methods of avoiding fires. Special inspections of the business areas are also made. The special inspectors also check up on the rubbish, etc., and see that it is cleared away.

A daily newspaper article on "Christmas Tree Don'ts" helps to inform the people of the danger of candles for decoration of Christmas trees.

Wm. Richardson, Chief, Kokomo, Ind.: Previous to, and during the holidays, special inspections are made of theatres, hotels and stores. A warning regarding the use of wax candles to illuminate the trees is placed in the local newspapers.

M. J. Fleming, Chief, Albany, N. Y.: We make daily inspections of all business houses handling Christmas goods. We also pay careful attention to interior decorations in such stores. We compel the stores to clean up each day any accumulation of rubbish. We advertise in the daily papers precautions to be taken in trimming the Christmas tree.

T. P. Treadwell, Chief, Fort Collins, Col.: During the holiday season, inspection of the mercantile risks were held daily. We have an ordinance prohibiting the storage of packing materials. Only approved containers were allowed. We have obtained very satisfactory results from newspaper publicity regarding the hazard of Christmas tree candle lighting.

On proper inspections and re-checks we have had very good results. No fires broke out during the Christmas seasons of 1933 and 1934.

Adam Crowhurst, Sales Manager, Dead

Adam Crowhurst, Sales Manager of Fire Alarm, Traffic Control and Police Signal Department, Northern Electric Company, Ltd., passed away at his home in Outremont, Quebec, on January 29, after an illness of several weeks.

The Late Adam Crowhurst

He was considered an authority on fire alarm signals and was frequently called for consultation work. He was an Associate Member of the International Association of Fire Chiefs, the Dominion Fire Chiefs Association, and the Province of Quebec Police and Fire Chiefs Association.

Mr. Crowhurst was born in Rouses Point, New York, fifty-one years ago. While still young he moved with his parents to Montreal. In 1907 he entered the service of the Northern Electric Company as a clerk in the factory schedule division and was later advanced to various positions. Seven years ago he was made Sales Manager of the fire, traffic and police signal department, and he served in that capacity until his death.

E. J. Kenny, Famous Fire Buff, Dead

Edward J. Kenny, Deputy Fire Commissioner of New York City for four years, died at his winter home at St. Petersburg, Fla., on March 3, at the age of sixty-four. He took great pride in his record of never having missed a major fire in Manhattan during forty years.

He was appointed Deputy Fire Commissioner in 1929, but previous to that had an intense interest in department activities. He donated an ambulance and searchlight trucks to the department at a cost of $75,000 and had established a truck to serve coffee and sandwiches to firemen at work.

Surviving Mr. Kenny are his widow, a daughter, four sons, and three brothers.

N. H. Chiefs Endorse Fire Marshal Bill

Legislative bill No. 110, for the establishment of a fire marshal's office in New Hampshire, was discussed at the meeting of the Fire Chiefs' Club of New Hampshire held on February 13 in the Eagle Hotel, Concord, N. H. A resolution was adopted endorsing the proposal.

Chief Harry J. Monahan, Berlin, President of the club, was in charge of the meeting which was preceded by a luncheon. The forest fire wardens of the state were guests at the meeting with three wardens' associations being represented.

The speakers were Representative Barnard, Attorney Thorpe, and C. L. Woodman, Assistant State Forest Warden of Massachusetts, who described the methods of fighting forest fires in Massachusetts. Mr. Woodman also showed several reels of motion pictures taken under the auspices of the Massachusetts Department of Conservation.

HARRY BELKNAP.

Chief Frank Kaiser, of the Port Washington, N. Y., Fire Department, died at his home as the result of a heart stroke. He had been Chief for seven years and Assistant Chief for twenty-one years. He was born in Port Washington, January 20, 1878 where he resided during his life.

Chief Albert Herring, Murphysboro, Ill., who apparently has a strong affinity for work, has now been appointed to his eighteenth local job. He is Secretary of the local projects being financed with federal funds. In his visits to the nearby towns, he is preaching the value of attending the coming I. A. F. C. convention, and the importance of officials sending the Chiefs to this meeting.

Officers and Directors of the International Association of Fire Chiefs, and Guests, Pose for a Picture Between Sessions.

Front Row: Left to Right—Mrs. W. A. Kennedy, Knoxville; Chief C. M. Johnson, Knoxville; Mrs. R. M. Smith, Knoxville; Chief John J. Towey, President, Newark, N. J.; Mrs. C. M. Johnson, Knoxville; Chief Robert Bogan, Second Vice-Pres., Baton Rouge, La.; Ex-Chief James J. Mulcahey, Secretary-Treasurer, Yonkers, N. Y.; Mrs. Stewart Orr, Knoxville; Chief Charles J. Brennan, First Vice-President, San Francisco, Cal.; Mrs. W. J. Sams, Knoxville; Chief James T. O'Donnell, Director, St. Louis, Mo.; Mrs. W. J. Springer, Texarkana, Arkansas; Chief W. J. Springer, Director, Texarkana, Arkansas (seated). Rear: Back Row: Left to Right—Fred Shepperd, Headquarters Manager, New York City; Joseph H. Green, General Manager, Eureka Fire Hose Division, U. S. Rubber Co., New York City; Chief John Evans, New Orleans, La.; Chief Joseph N. Sullivan, Chairman, Civil Service Committee, Utica, N. Y.; Chief Ross B. Davis, Director, Philadelphia, Pa.; Chief Jay W. Stevens, Executive Secretary, San Francisco, Cal.; Chief Roscoe Foster, Director, Portsmouth, Va.; Chief L. B. Canfield, Beverly Hills, Cal.; Chief Peter Steinkellner, Director, Milwaukee, Wisconsin; Chief D. B. Tierney, Director, Arlington, Mass.; George Morley, The Gamewell Company, New York City; Asst. Chief R. M. Smith, Knoxville; J. R. Carnes, Master Mechanic, Knoxville; Asst. Chief W. J. Sams, Knoxville; J. W. Greene, Amercian-LaFrance & Foamite, Industries, and Chief M. T. Kennedy, Chairman, Exhibit Committee, West Orange, N. J.

I. A. F. C. TO MEET AT KNOXVILLE, TENNESSEE, ON SEPTEMBER 24-27

Directors Complete Plans for Meeting in the Southern City; Accommodations Excellent, and Prospects for a Big Convention Are Bright

AT a meeting of the Officers and Directors of the International Association of Fire Chiefs, held at Knoxville, Tennessee, February 21-22, the dates for the annual Convention were set for September 24, 25, 26 and 27.

The Hotel Headquarters will be the Hotel Andrew Johnson. Excellent facilities for display of equipment, but not motor apparatus, are available in the hotel, where the meetings will also be held. An innovation will be adopted this year, insofar as the program is concerned by having District Association, suggest topics and authors. In addition, the officers of the Association, in cooperation with Headquarters Office, will provide additional subjects to be discussed. It is planned to present at the annual Convention both a suggested draft for State Civil Service Law and a summary of points which should be included in such law, where it is desired to formulate locally a law applying to particular state requirements. False alarms, too, will be given considerable discussion.

The memorial services on the first day of the Convention will be conducted by a group from the Pacific Coast District and will entail very impressive ceremonies.

Association Matters Discussed

The affairs of the Eastern Association of Fire Chiefs were discussed, particularly insofar as the records of the late Treasurer were concerned. It appeared that the Treasurer, when he died, left records which indicated that the Treasurer's Office owed the Association around $800. It was moved and carried unanimously that this indebtedness be wiped off the books and the portion of such indebtedness due to the International Association of Fire Chiefs be treated likewise.

Other action included recommendation that the President of the Association, Chief Towey, of Newark, N. J.; Chief Steinkellner, Milwaukee, Wisconsin, and Chief Roscoe Foster, of Norfolk Navy Yard, call on President Roosevelt and urge him to include purchase of fire apparatus as eligible for loans from PWA.

Resolution was adopted congratulating Chief Smith upon his reappointment as head of the Pittsburgh Fire Department; also a resolution commending Chief Clark, of Williamsport, Pa., for his action in connection with the removal of Chief Smith (as reported in FIRE ENGINEERING, February, 1935, page 62).

Other activities incidental to the Convention included recommendation for life membership of Ex-Chief John C. Egner, of the Kansas City Fire Patrol and also former Chief of the Kansas City Fire Department. This recommendation will be placed before the Convention when it meets in September.

The Directors will meet again the day prior to the Convention, September 23, at 9 A.M. and will review the proposed civil service law as well as other affairs affecting the Association and the Convention.

Mayor O'Connor, Chief Johnson and the local officials at Knoxville, demonstrated splendid Southern hospitality in entertaining the delegates. The enthusiasm shown for the coming Convention augurs well for its success.

Those Present at Meeting

Those present at the meeting included the following: Chief John J. Towey, President, Newark, N. J.; Chief Charles J. Brennan, First Vice-President, San Francisco, Cal.; Chief Robert A. Bogan, Second Vice-President, Baton Rouge, La.; Ex-Chief James J. Mulcahey, Secretary-Treasurer, Yonkers, N. Y.; State Fire Marshal Jay W. Stevens, Executive Secretary, San Francisco, Cal.; Chief Joseph N. Sullivan, Chairman, Civil Service Committee, Utica, N. Y.; Chief M. J. Kennedy, Chairman, Exhibit Committee, West Orange, N. J.; Fred Shepperd, Headquarters Manager, New York City, N. Y.; Chief Ross B. Davis, Philadelphia, Pa.; Chief Daniel B. Tierney, Arlington, Mass.; Chief L. P. Kerner, Jr., Rio Vista, Cal.; Chief James T. O'Donnell, Salvage Corps, Kansas City, Mo.; Chief Peter

Steinkellner, Milwaukee, Wisconsin; Chief W. J. Springer, Texarkana, Texas; Chief Roscoe Foster, Navy Yards, Portsmouth, Va.; Chief L. B. Canfield, Beverly Hills, Calif.; Chief John Evans, New Orleans, La.; Joseph H. Green, Pres., Eureka Fire Hose Division, U. S. Rubber Company, New York City; George Morley, Gamewell Company, Newton, Mass.; John W. Greene, District Manager, American-LaFrance & Foamite Industries, Atlanta, Ga.; Stewart Orr, American-LaFrance & Foamite Industries; Mayor O'Connor and Chief C. M. Johnson, Knoxville, Tennessee.

GENERAL ALARM FIRE DESTROYS BUILDINGS AT LYNN, MASS.

Blaze at Point of Great Lynn Fire of November, 1899 — Two Officers and Nine Firemen Hurt — Aid Rushed from Nearby Cities

By Harry Belknap

FIREMEN of Lynn, Mass., led by Chief William F. Welch and Deputy Chief Joseph E. Scanlon, battled desperately in below zero weather on the morning of January 30 to control a fierce fire which destroyed a 7-story brick building and one story block adjoining and spread to three other structures before it could be checked. Only efficient fire fighting and the fact that the other buildings which the fire entered were equipped with automatic sprinklers prevented the flames from sweeping through the heart of the business section of the city.

The building in which the fire originated was occupied by several shoe firms and was equipped with sprinklers which had been shut off the previous day because of trouble caused by a frozen pipe. In spite of warning given the owners by the Fire Department the sprinkler system had not been repaired following the freeze-up.

The first alarm was sounded at 4:18 a.m., followed by a second alarm at 4:25, and a third or general alarm at 4:30. The fire apparently originated on the first floor from an unknown cause and had obtained great headway before the first alarm apparatus reached the scene.

There were numerous post hydrants available and the water pressure was good. A brisk northerly wind prevailed at the time of the fire. Many of the firemen suffered frostbites and their clothing became encased in ice. There were several narrow escapes from death by falling walls.

The response of apparatus was as follows: First alarm, Engine 4, Ahrens-Fox 1,000-gallon pumper; Engine 5, Ahrens-Fox 1000-gallon pumper; Engine 6, Ahrens-Fox 750-gallon pumper; Engine 12, triple combination Buffalo with 1000-gallon Hale pump; Ladder 1, White 85-foot aerial ladder truck with Dahill hoist; Ladder 3, 85-foot American-LaFrance aerial ladder truck; Chemical 1, Maxim combination wagon; and Chemical 2, White combination hose wagon and chemical.

Second alarm: Engine 1, Ahrens-Fox 1000-gallon pumper; Engine 2, American LaFrance, 750-gallon pumper; Engine 3, Ahrens-Fox 1000-gallon pumper; and Ladder 4, Ahrens-Fox 75-foot aerial ladder truck.

Third alarm: Engine 7, Ahrens-Fox 750-gallon pumper; Engine 8, American LaFrance 750-gallon pumper; and Ladder 2, Ahrens-Fox 75-foot aerial ladder truck.

Aid was called from Revere, Swampscott, Saugus, and Nahant.

Three Morse wagon gun streams were used, also a portable deck pipe. Spray curtains formed by hose streams and water from the automatic sprinklers kept the flames from sweeping through adjoining buildings and saved the Central National Bank Building which was just across Almont Street, a narrow thoroughfare. The bricks and window ledges were spalled by the heat and the fire entered the rear of this building but was checked by the sprinklers. Lines of hose were taken to the roof of adjoining buildings and lines were connected to the sprinklers.

Snow on roofs minimized the danger from flying embers which were carried far by the wind. Three separate alarms were given for fires caused by sparks.

Captain William Nihan, of Ladder Company No. 3; Lieutenant Walter Evans, of Engine Company No. 3, and nine firemen were injured. There were 195 officers and men on duty at the fire. The "all out" signal was not sounded until 3:38 p.m. on January 31. The loss was estimated at $100,000.

The structures destroyed were the 7-story Faunce & Spinney Building at Blake and Almont Streets, and the one story building of the National Development Company at Blake and Mulberry Street. The properties damaged were the Central National Bank Building on Willow Street, the Dagyr Building on Willow Street, and the Guiliford Wood Heel Building on Mulberry Street.

Firemen Battling the General Alarm Conflagration

The fire was only a block from Central Square and was at the point where the Great Lynn Fire of November, 1889, had its origin. The Faunce & Spinney Building was erected in 1890.

HARRY BELKNAP.

Camera to Show Error of Ways

In order to correct errors made by firemen in fighting fires, Chief Walter Swap, of West Newbury, Mass., has ordered a Photograph Branch to be established in the Fire Department. He has appointed a photographer to take pictures of all the fires.

Boys Work Out Department Sentence

Two boys of Kalamazoo, Mich., were given assignments which will occupy their Saturday holidays until such time as the Fire Department believes they have been impressed with the seriousness of turning in false alarms.

The boys were caught by Assistant Chief Frank Van Atta after turning in a false alarm. They were given the alternative of working in the central fire station or being taken to court for trial. They chose to work out their sentence which consists of mopping floors, cleaning grease pans, polishing nickel and brass work and washing fire apparatus.

Saskatoon Fire Prevent Book

A fire prevention book, which also marks the twenty-fifth anniversary of the paid department, has been issued by the Saskatoon Fire Department, Saskatoon, Canada.

Besides articles by Chief J. E. Faithfull and local city officials, it has material reprinted from various sources, and it has reproductions of interesting fire department photographs. It contains a lengthy article on how to prevent fire in the home. An article, "The Fire Fighter and His Affiliations," has been prepared by J. Ritchie, President, Local 80, I. A. F. F.

Fire losses in the Province of Saskatchewan, Canada, have dropped from $3,564,485 in 1931 to $1,869,903 in 1933. For all of Canada they have dropped from $47,117,334 in 1931 to $32,676,314 in 1933.

A static spark set fire to twenty tanks of rubber cement at the plant of the Lincoln Rubber Company, Akron, Ohio.

Chief James Armstrong of Kingston, Ont., Canada, has submitted his annual report which shows that the number of fires has increased to a total of 415, but the fire loss was $11,700 as compared to $172,774 for 1933. There were only seven fires in which the loss was over $1,000, but these seven fires accounted for a total loss of $93,345. Chimneys and stove pipes caused the greatest number of fires.

Questions and Answers

NOTE—Readers are invited to send in questions, which will be answered in the order received. Names are omitted from questions unless otherwise specified

Pressures on Booster Line

To the Editor:

Will you please explain how to find the engine pressure, nozzle pressure and gallons per minute using 1¼-inch rubber booster hose and ½-inch nozzle tip with a hose line of 300-foot length.

Answer: The formula for solving engine pressure is as follows:

E.P. = N.P. X (1.1 + K.L.), where K is a factor depending upon the hose diameter and nozzle diameter; L is the number of 50 foot lengths of hose in the line.

Formula for nozzle pressure is: N.P. = E.P. ÷ (1.1 + K.L.).

In the problem you cite, the factor for 1¼-inch rubber line hose is .01311.

The number of 50 foot lengths of hose in the line is 300—50 feet or 6.

Then E.P. = N.P. x (1.1 + 0.01311 x 6).

Or, N.P. = E.P. ÷ (1.1 + 0.01311 x 6).

Now as an example, let us assume that the engine pressure is 100 pounds.

Then we have, by using the nozzle pressure formula.

N.P. = 100 ÷ (1.1 + .01311 x 6).
= 100 ÷ (1.1 + .07866).
= 100 ÷ 1.17866.
= 84.8 pounds approximately.

If the nozzle pressure were known and the engine pressure was desired, then the first mentioned formula for engine pressure would be used. The method of calculating engine pressure is very similar to that of finding nozzle pressure, as may be noted by comparison.

Check Valve in Hose Line

To the Editor:

Would it be practical to place a threaded check valve in a 2,000 foot line of 2½-inch fire hose, which is being used when pumping water up hill?

I am under the impression that a check valve might tend to hold the weight of water in the line and reduce the back pressure on the pump. G. H. J.

Answer: The placement of a check valve in a 2,000 foot line of 2½-inch hose, where the hose is laid up a hill, would have no effect whatsoever on the pump. The only good the check valve might accomplish would be to prevent the water from flowing out of the line in case a length burst near the engine, but this is of no *real* value in fire fighting. The plan might best be compared to having a brakeman keeping his brakes on a line of freight cars to prevent the train backing down a hill when the engine is pulling it up. The check valve does impose a little load upon the pumper, and it accomplishes nothing in the way of reducing back pressure at the engine. The check valve must be open at all time when water is flowing, and so the entire back pressure is transmitted right up to the engine. It is only when the engine stops operating and the check valve closes that the back pressure against the engine is released.

Rubber Cement Fire

To the Editor:

How would you fight a fire involving rubber cement?

A small fire in the rear of a building involves a 25-gallon can of rubber cement and possibly a little waste rubber. The building is 60 feet long. What methods would be used if entire building was involved in fire? Nearest dwelling is 100 feet away. Building also contains celluloid. A. L.

Answer: If the building were fully involved, there would be little use in trying to single out the rubber cement for special fire fighting operations. On the other hand, if there was a good chance of the fire being brought under control, then it might be possible to keep the rubber cement in can cooled by the use of a stream so that can would not burst and thus add to the intensity of the fire. The chief hazard with rubber cement is the solvent employed, usually a light volatile derivative of petroleum, such as ether, high test gasoline, etc. If the fire is so intense that the can bursts, the chances are that the rubber cement will burn fiercely but will not cause an explosion by its throwing off gases which might be ignited by fire in the neighborhood.

If the the cement only were burning it would be a simple matter to extinguish the fire using carbon dioxide extinguisher, or foam streams if such were available.

Rats and Matches

To the Editor:

Do you know of any authentic record of rats or mice setting fire by carrying, or nibbling, matches? If so, I would surely like to have details. A. H. R.

Answer: Although rats and matches, and mice and matches, have been credited with a tremendous number of fires, there is on record not a single instance where such an origin of fire has been proven.

As a matter of fact, some years ago a test was conducted to see whether or not rats would eat matches or in any way disturb them. In the test, rats were placed in a cage with nothing else but an assortment of matches, in different types of boxes. Although the rats starved to death, the matches remained undisturbed, which seems to show quite conclusively that the popular affinity between rats and matches is just so much fiction.

Anti-Freeze Chemicals

To the Editor:

Could you enlighten me as to the formula for mixing calcium or sodium chloride in one gallon of water to prevent freezing at 0° F. so it may be applied to various quantities of water? J. R. B.

Answer: The following table will give you the information you wish regarding the use of calcium chloride and sodium chloride for lowering the freezing point of water:

Freezing Point of Calcium Chloride Solutions

(75 Per Cent Grade of Calcium Chloride)

Pounds per gallon.....	3.76	3.36	2.95	2.56	2.18	1.80	1.43
Freezing point, deg. F.	32.6	19.5	8.7	0	7.5	13.8	18.5

Freezing Point of Sodium Chloride (Salt) Solutions

Per cent of salt by wt.....	1	5	10	15	20	25
Wt. of 1 gal., pounds.....	8.4	8.65	8.95	9.30	9.60	9.94
Freezing point, deg. F.....	31.8	25.4	18.6	12.2	6.86	1.00
Wt. of 1 cu. ft., lb.....	62.8	64.7	66.95	69.57	71.76	74.26

Back Draft and Hot Air Explosion

To the Editor:

What is a "back draft" and what is a "hot air explosion?" Are they the same, and if not, what is the difference? If they are different can you have a hot air explosion and not a back draft or the other way

around, a back draft and not a hot air explosion? What is the cause of both and how can they be avoided or prevented?

L. G. D.

Answer: "Back draft" and "hot air explosion" commonly refer the same thing.

Incomplete combustion in a building is caused by lack of sufficient supply of air (oxygen). If a fire has been smouldering for some time and a supply of air is suddenly furnished it, the unburned, inflammable gases, present in the building, may ignite and cause an explosion. This explosion, expanding the air and gases through the agency of heat, may be sufficient to blow out windows, doors, or even the walls of a building. The sudden out-rush of the mixture is commonly termed "back draft." The agency which causes it is commonly known as "hot air explosion," although the two terms are commonly used interchangeably.

Proper ventilation usually prevents back draft or hot air explosion. Ventilation preferably should be started at the top of the building, and after the top is opened up, openings may be made at lower points by raising windows, opening doors, etc.

Design of Salvage Company Apparatus

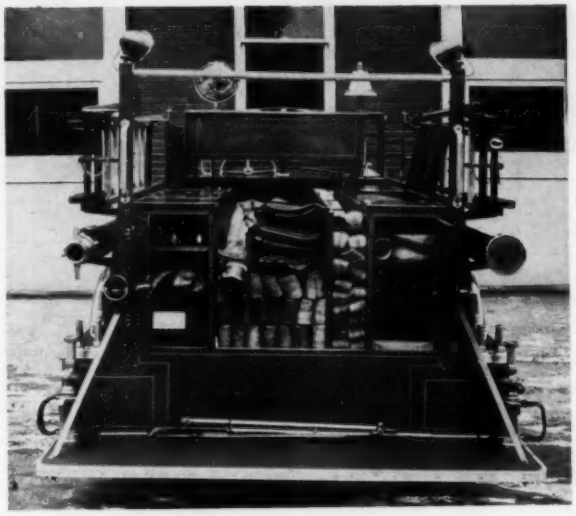
Mason City, Ia., which, according to Chief D. H. Shire, is the smallest city to have a paid Fire Department, has a complete salvage company in service.

The apparatus for Salvage Company No. 1 is mounted on a 1½-ton International Truck chassis, with a six-cylinder motor. The wheel base is 160 inches. The body is entirely constructed of steel and is divided into six compartments, three on each side. The two forward compartments each hold twelve stock covers and the center compartment on the left side holds twelve roof or attic covers. All covers used are twelve by eighteen feet. The middle section on the right side holds three rolls of roof paper, three bundles of lath, three hammers and several sacks of nails for covering openings made for ventilating a fire. The two rear compartments open to the rear of the body and not up as do the four others. The one on the right rear has a 12-foot length of 3-inch soft suction hose and a 12-foot length of ¾-inch radiator cooling hose on the top shelf. The center shelf has pliers, small wrenches and screwdrivers, while the bottom shelf has the first aid kit and medical supplies. On the top shelf of the left rear section are eighteen sprinkler replacement heads for various degrees of heat, and the necessary tools for replacing the heads. The other shelves have drain covers, wooden plugs for driving into water and gas pipes, wooden wedges for holding covers on wall cases, and signs to place on covers where they are placed on glass cases so as to prevent men climbing on to such cases.

The center of the body has a divided hose bed carrying 500 feet of 2½-inch double jacket and 400 feet of 1½-inch double jacket hose.

There are two compartments on the right running board.

Salvage Apparatus of Mason City, Ia.



Rear View, Showing the Compartments

In the forward one are Burrel gas masks, and the rear one which extends across the back of the apparatus, has mops, brooms and squeegee handles. The left side forward compartment has a shelf with eight squeegee heads, and on the bottom of this section are several large Stilson and monkey wrenches, jacks and several wrecking bars. The rear step carries a door opener and a crowbar, and two shut-off nozzles. The rear side boxes have the nozzle tips and one 1½-inch nozzle on each side. Two scoop shovels are carried on each side of the body with two wooden scoops in the rear left part of the cover box.

The front end of the body has a 100-gallon copper booster tank with the booster hose basket above it. The basket has 200 feet of ¾-inch booster hose and nozzle. The bell and spot lights are mounted just in front and above the booster basket. Under the seat is a 350-gallon Northern rotary pump.

The apparatus also carries 2½-gallon extinguishers, four large buckets, cooper hose jacket, fire axe, two 14-foot baby extensions, and three stock covers on top of the hose for the first cover-ins. There are also two 150-foot life lines, six chamois skins and six sponges.

This apparatus responds to all alarms and first aid calls.

Historic Engine Returned to Plymouth

A banquet was held in the Central Fire Station, Plymouth, Mass., on February 22 to celebrate the return to the town of a valued and historic trophy, namely the old hand fire engine "Torrent."

This was the first suction engine owned by Plymouth and was built in 1825 by Ephria Thayer, of Boston. At a town meeting on May 17, 1828, it was voted that William Spooner, Jacob Covington, and Daniel Jackson serve on a committee to purchase a new fire engine for the town and as a result the "Torrent" was bought and became No. 4. This ancient engine was later stored away and more or less forgotten. It became dilapidated and many parts were missing. In 1926 what remained of the engine was purchased by Henry Ford and taken to Dearborn to be placed on display. Mr. Ford completely restored this old equipment and through the personal efforts of Fire Commissioner Henry Walton, Plymouth, he generously returned the "Torrent" to the town as a gift.

The speakers at the banquet were Commissioner Walton and Chief Albert Hiller, of the Plymouth Fire Department; Selectmen James A. White and Fred A. Jenks; Dr. Francis E. Donoghue, Fire Commissioner Edward F. McLaughlin and Supt. E. E. Williamson, of the Maintenance Division of the Boston Fire Department; Chief Selden R. Allen, of Brookline; Charles "Sandy" Chapman, of the Gamewell Company; Chief Drew, of Kingston, and Chief Merry, of Duxbury.

HARRY BELKNAP.

Elmira, N. Y., has abandoned Station No. 2 on West Water Street, and the men and equipment have been moved to the headquarters station.

The WATCH DESK

Our inquiring reporter overhauls the firemanic news of the day

By Roi B. Woolley

Firemen-Undertakers and Flowers

Two undertakers and many wreaths of flowers arrived at home of James Haywood, Toronto. Nobody being dead, he sent away posies and morticians, only to still further wonder what it was all about, when fire engines pulled up in front of his home and fire laddies burst in to put out non-existant flames. Acting on his tip that maybe a jilted girl had done dirty deed, police arrested Thelma Smith and Hilda Crosken, who confessed. James will be careful in the future.

Fireman "Dates" Girl With False Alarms—Jailed

Volunteer firemen of Eagles H. & L. Co., Perth Amboy (N. J.) were all excited when Edward Kjersgaard, fellow vol. was pinched, held in $500 bail and accused of using city's fire alarm system to set dates with the girl friend. She likewise was nabbed and held in same bail for her romantic tendencies. Both pleaded guilty to turning in false alarms. Police said that whenever the girl friend was free to meet the brave fireman, she would turn in false alarm and linger around until the apparatus arrived, with the B. F. in full pursuit. This got him away from home without embarrassing explanations. Whenever his wife went out he would sound his own alarms to notify the G. F. that he was fancy free. His F. D. job was to direct traffic. Suspicion pointed to him when he was on hand and directing the traffic long before his vol. comrades turned up. Fire Chief Peter Campbell said they got their alarms mixed on a Saturday . . . so he tipped off cops, who spoiled romance, but saved city $50 per alarm, while ending danger of accident to apparatus and vols.

One Alarm Fire Puts Chief On Spot

Out in San Jose (Cal.) a one-alarm fire, declared by Chief Angelo Cancilla, of Burbank, a suburb, to have been worst in his personal experience, swept the seat of the Chief's pants, with 100 per cent loss. "Conflagration" started in hip pocket, when matches rubbed against badge. Chief hurried the fire to firemen, who stretched in without delay, applied water and unguentine. Chief ate off mantlepiece for awhile.

Flames in Flemington

Flemington (N. J.) famed for recent Hauptman trial, continues to make the newspapers. Fleeing in panic through the streets of this town, clothing ablaze, Walter Lane, aged 20, garage night watchman was severely burned before Merrill Mellott overtook him, with an extinguisher and doused fire. Victim caught fire from small blaze in garage, which was promptly killed by firemen.

Furniture Fuel to Heat House

John McCabe, aged 39, was held in bail of $5,000, after fire had destroyed upper half of two-story, two-family house in Brooklyn. Originally arrested for intoxication at scene of fire, it developed that McCabe had gone to Mrs. Mary Dixon, owner of house, and kicked about lack of heat. Later McCabe invited her to his apartment where "it was nice and warm now." "He had all his furniture piled in the center of the room," Mrs. Dixon told court, "and had set fire to it. I left him rubbing his hands before the bonfire while I ran down to ring in a fire alarm."

Atlantic City Firemen Organize

William Green, President, American Federation of Labor, and other labor leaders threatened to discontinue August sessions of Federation's Executive Committee in Atlantic City if A. C. Firemen were not allowed to organize and join A. F. of L. fireman's union. Municipal authorities removed the city's ineligibility for next Fall's convention of the A. F. of L. by rescinding original order that if they joined A. F. of L. fireman's union they would be dismissed. Firemen therefore completed temporary organization of the Atlantic City Uniformed Firemen's Association, affiliated with the International Fire Fighters Association of the American Federation of Labor. In return for city father's decision, firemen are plugging hard to bring Federation's convention to the Shore.

"Way Down South in Georgia"

State of Georgia was made self-insurer by proclamation (January 3, '35) by Governor Talmadge, removing from hands of insurance companies $6,216,653 in insurance on all public buildings which expired January 6, last. As other policies expire they will be assumed by State. Claimed premiums would have amounted to $102,669 on policies expiring January 6. In turn, Governor levied assessments totaling $41,067.68 against departments which would have been compelled to pay the premiums, and ordered money put back in treasury as nucleus of a fire insurance fund.

500 Families Face Fire Hazard

Citizens Water Company, Everson (Pa.), subsidiary of Delaware Valley Utilities Company, took action after borough in which 90 per cent of families are on relief, failed to pay its water bill, and smashed all fire hydrants, with sledge hammers.

Community is composed of frame houses; freezing weather made disastrous fire possible. Borough Council hurriedly presented complaint to Public Service Commission, Pa. Company claimed Borough had not paid taxes and made no real effort to collect them. Borough Attorney Harry W. Byrne insisted everything possible had been done, but four large concerns, which once supplied most of work in district, are completely shut down.

Justice Overtakes Drunken Driver

Rocco Demo, aged 32, of 222 Lafayette Street (N. Y. C.) when drunk, drove his taxi into a fire engine, killed fireman John Feeley. On January 21 last he was convicted of manslaughter in second degree; on 31st was sentenced by Judge Bohan in General Sessions to the penitentiary for not more than three years.

Current Travels

Among the queer causes of fire, consider this one: workmen tried to thaw out a frozen water pipe in the Humphrey Home (Unionville, Conn.) by means of electricity, but set fire to a house across the street instead. Current traveled along a water conduit and so heated a cable in other house that blaze resulted.

The Month's "Tall Story"

There was a dormitory debate going on in quarters of No. 2 Engine, Toledo. The Old Timer had listened to stories of incredible happenings until he could stand it no longer. "You talk about throwing a shoe off that pumper going to a fire; hell, that ain't anything to the time, back in 1915 when we rolled to a fire down on St. Clair Street. You wouldn't believe it, but as we passed the National Bank of Commerce building, the off horse cast a shoe, and it went right up in the air, and landed on the stone ledge of the second floor. Beat that if you can." Just for fun, our enquiring reporter checked up on this, and sure enough, it really happened. The Toledo Blade for July 1, 1915, confirmed it. Who's next with a "tall story"?

WHAT DO YOU KNOW?

The Editor of "The Watch Desk" welcomes contributions from readers of Fire Engineering that briefly give facts about interesting, odd things that have to do with fires, fire-fighting, etc. Address "Editor, Watch Desk."

5-Alarm Fire in Old Packing Plant

For nearly twenty hours, firemen of Pittsburgh, Pa., fought a five-alarm fire which started in a brick building in use for over fifty years as a meat packing plant. The grease-soaked interior made excellent fuel for the flames. The building had been abandoned and was about to be repaired.

Fire started in the basement and soon worked its way up to two large water tanks of the roof. An hour after the fire had started, floors and the roof had burned through and crashed one by one into the basement. Firemen saved a fifty-foot section of the building at the western end of the large plant.

The first alarm was sent in at 7:21 p.m. Battalion Chief Fred S. Beckett who responded with the first alarm com-

Five-Alarm Packing House Fire at Pittsburgh, Pa.

panies, Engines 8, 16 and 28 and Truck 8, found the interior of the building a mass of flames. He immediately ordered a second alarm at 7:33 p.m., a third at 7:44; a fourth at 7:46 and the fifth at 7:54. A special call for two companies was sent in at 7:32 p.m. This brought sixteen engine companies and four truck companies, including Chief Richard L. Smith, Deputy Chief Nicholas Phelan and Battalion Chiefs Fred S. Beckett and John B. Callaghan.

The western section of the building was divided from the burning section by a solid brick fire wall with large open doorways on each floor. The floors were stocked with tons of lard in barrels and drums.

About twenty-five large steel cylinders of acetylene gas had been placed in the building the day before for use in reconstructing the building. These tanks exploded at intervals and blew off the roof of the burning building. Flying sparks threatened nearby buildings.

When the fire broke out, the stairs in the building had been removed and ladders were used as a temporary means of travel from floor to floor. These stair openings made good draft for the flames which were fed by a large amount of second hand building materials on the various floors.

The all-out signal was given at 3:10 p.m., the following day. The front wall of the burned section was in a dangerous condition and was torn down.

WILLIAM E. PATTERSON.

Signal Men to Meet at Poughkeepsie

A group meeting of the New England, New Jersey and New York associations of the Associated Municipal Signal Services will be held at the Hotel Campbell, Poughkeepsie, N. Y., June 20-22. Invitations are being sent to those interested in municipal signaling systems.

McPherson, Kan., is awaiting the delivery of a 500-gallon pumper.

A. R. Small, President, Underwriters' Laboratories, Chicago, has been elected a member of the Board of Directors of the American Standards Association, representing the Fire Protection Group.

WHAT'S BURNING?

THE following list includes fires of $50,000 loss and over in the United States and Canada, for the month of February, 1935. These figures, compiled from the telegraphic reports are based on estimates made at the time, and are subject to later investigation and consequent revision. Taken as a whole, however, they are an approximately correct view of the losses incurred. The figures represent loss in thousands of dollars.

Month Ending February 28	Loss in Thousands of Dollars
Helena, Ark.—Wooten Epes Hardware Co., adj. property	50
Byrn Athyn, Pa.—Academy of New Church School destroyed	125
Babylon, L. I., N. Y.—Business property on Deer Park Ave	65
Roanoke, Va.—Pugh department store and adj. property	150
Cold Spring Harbor, L. I., N. Y.—Dwelling of A. J. Stewart	65
North Babylon, L. I., N. Y.—Dwelling of Frank N. Dodd	50
Rumson, N. J.—Dwelling of Emory T. Wales, Rumson Park	50
New Orleans, La.—Carrollton Theatre and adj. property	50
E. Gloucester, Mass.—Summer hotel and adj. property	80
Medford, Mass.—First Baptist Church and parish house	50
Greenville, S. C.—Finlay building destroyed	100
Belleville, Ill.—Mine of Safety First Coal Co., 1 mi. s.e.	50
Charles City, Iowa—Hildreth Hotel and adj. property	80
Ely, Minn.—Emeralite Surface Products Co., 3 m. west	65
Hanover, Pa.—Factory of Mummert Dixon Co	80
Greenville, N. H.—Town hall damaged	125
Hudson, Mass.—Chase block destroyed	125
New Orleans, La.—Whse. of Hurwitz-Mintz Furniture Co	50
New Albany, Ind.—Tavern Hotel destroyed	50
Duluth, Minn.—Business property damaged	80
Gallatin, Tenn.—Fountain Head Sanitarium damaged	50
Philadelphia, Pa.—Factory of John Knoell & Sons, destroyed	50
Halifax, N. S.—Property in business district	70
Bloomington, Ind.—Chapter house at Indiana University	50
Greensburg, Ky.—Business property	65
Hooks, Tex.—School building destroyed	50
Wisconsin Rapids, Wis.—Two bldgs. in east side business dist	50
Biddeford, Me.—Business block damaged	50
Hulbert, Mich.—Plant of J. S. Parrish Co., destroyed	80
Murray, Ky.—William Mason Memorial Hospital damaged	125
Milwaukee, Wis.—Astor Hotel damaged	65
Rockland, Me.—Rockland hotel damaged	50
Hillside, N. J.—Factory of Neuco Products Co	125
Covington, Ky.—Property owned by Bellonby Furniture Co	50
Brookville, Ind.—Plant of Webber Mfg. Co., destroyed	50
Toronto, Ont.—Two bldgs at Royce and Wiltshire Aves	50
Washington, Pa.—Fraternity house at Washington & Jefferson College	50
Vancouver, B. C.—Four story business block damaged	300
Seabright, N. J.—North wing of Pannaci Hotel destroyed	70
New Orleans, La.—Barn at Fairgrounds race track, destroyed	65
Bound Brook, N. J.—Geller Lamp Shade Co. factory	80
Dover, N. J.—Dover Boiler Works destroyed	80
Elizabeth City, N. C.—Schoolhouse and twenty residences	65
Hollywood, Cal.—Voltaire apartment building damaged	125
Cherry Valley, Ark.—Post office and adj. property	50
Cleveland, Ohio—Whse. of Unclaimed Freight Whse. Co	50
Tampa, Fla.—Plant of Lyons Fertilizer Co., destroyed	250
Boston, Mass.—Bldg. at 132-40 Beech St., damaged	50
Scotland Neck, N. C.—Plant of Scotland Neck Builders Supply Co.	50
Williamsport, Pa.—Bldg. occupied by Edwards Motor Transit Co.	90
Leicester, Mass.—Smith block destroyed	50
Hartsville, S. C.—Perry building destroyed	50
Alta, Iowa—Business building owned by A. M. Conner	50
Lockport, N. Y.—Newberry Dept. store and adj. property	70
Indianapolis, Ind.—Lumber yard and two adjacent dwellings	50
Detroit, Mich.—Western High School destroyed	800
Sturgeon Bay, Wis.—Dept. store of Prange-Washburn Co	150
Oilton, Okla.—Business property damaged	50
Steubenville, Ohio—Dept. store, theatre and bank, damaged	200
Nashville, Ill.—The Huegely wheat mill destroyed	80
Itasca, Wis.—Roundhouse of Northwest R. R. damaged	50
Chicago, Ill.—Whse. of Continental Products Co	65

Ball Held for Boston Relief Fund

District Chief Joseph W. Shea acted as floor marshal at the fifty-sixth annual ball of the Boston Fire and Protective Departments which was held February 18 in the Boston Garden.

The reception committee was headed by Fire Commissioner Edward F. McLaughlin, Chief Henry A. Fox, and Peter E. Walsh, Superintendent of the Protective Department.

Captain John H. Leary was chief of aids and the assistant floor marshals were Lieutenant James F. McFadden and John F. Horgan. Lieutenant Frederick J. Dobbratz was head of the general committee.

There was a large attendance, the proceeds being devoted to the Boston Firemen's Relief Fund. Mayor and Mrs. Frederick W. Mansfield participated in the grand march. A timely notice pointing out the menace of false alarms was printed in the back of the ball program.

HARRY BELKNAP.

Oak Harbor, Ohio, holds the honors for the latest idea in fire apparatus. It has purchased a hearse which it will refit for department use. A pumper will be installed.

Kentucky Mutual Aid Plan Functions

Several communities in the northern part of Kentucky have formed a mutual aid of cover-up system which has just been given a practical test. City officials were well pleased with the manner that the various companies responded to supply aid at a fire in Covington, Ky., or to cover up for those companies which had responded to the fire.

Chief F. A. Northcutt

This fire, considered by Chief Northcutt to be of incendiary origin, rapidly spread through the four-story plant of the Bellonby Furniture Company, Covington, Ky., and caused the sounding of a general alarm which brought companies from Newport, Clifton, Ludlow, Fort Mitchell and Elsemere. This was the first time that the aid system was used since the Kentucky Regional Fire Departments was organized early in 1934.

The following Chiefs responded: Edward Miles, Newport, Charles Sidell, Clifton; John Crowell, Elsemere; John Schroder, Fort Mitchell; Dan Robinson, Ludlow, and Asst. Chief Richard Brosemer, Newport. At this fire there were six pumpers, four hose wagons, three ladder companies, one aerial and two salvage wagons. During the height of the blaze, boats on the Ohio River played powerful searchlights on the building.

Movements of apparatus to fill in were controlled by the fire tower at Covington. Fire officials from northern Kentucky were well pleased with the manner in which the mutual aid and cover-up plan functioned.

A wall clock in the building stopped at 3:15 a.m., and the alarm was received at fire alarm headquarters at 3:45 a.m., showing that there had been a thirty-minute delay in reporting the fire.

The following is a list of the municipalities belonging to the Northern Kentucky Mutual Aid plan, the population of the respective communities, and the Chief of Fire Department:

Bellevue, 8,497, Edward G. Winters; Bromely, 875, Eli Gibson; Clifton, 145, C. C. Sidell; Covington, 65,252, Frank A. Northcutt; Dayton, 9,071, Clarence Kiefer; Elsmere, 1,658, John Crowell; Erlanger, 1,853, Andrew Scheben, Jr.; Fort Thomas, 10,000, Bernie Nielander; Ludlow, 6,485, A. P. Robinson; Newport, 29,744, Edward Miles; Southgate, 1,254, Cliff Specht; Fort Mitchell, 1,224, John H. Schroder.

All these cities are across the river from Cincinnati, Ohio, and join each other, like the boroughs of Brooklyn, Queens and the Bronx of New York City. LARRY F. DONOVAN.

Fighting the Fire at Covington, Ky.

Ex-Chief Vanderholt, Sharon, Pa., Dead

Fred Vanderholt, Sr., Chief of the Sharon, Pa., Fire Department for thirty-one years and a member of the force for almost forty-eight years, died at his home following a stroke, at the age of seventy-five. He had resigned from the department on December 31, 1933. He was tendered a testimonial dinner on January 27, 1934, by the Mercer County Firemen's Association to mark his retirement.

He is survived by his widow, three sons, three daughters, and a sister.

The Late Fred Vanderholt

Miller Chief of Hannibal

Elmer Miller, a member of the fire service for twenty-four years, was elected Chief of the Hannibal, Mo., Fire Department to fill the vacancy caused by the death of the late Chief William J. Grove.

Chief Miller is fifty years old. He was a driver of the first motorized apparatus purchased by the city. He was chosen as department head by a unanimous vote of the Board of Aldermen.

Mid-Hudson Chiefs Hold Two Meetings

The regular February meeting of the Mid-Hudson-Harlem Valley Fire Chiefs' Association was held at the Dutcher House in Pawling on February 2. Chief Klein, of Hope Farm, Chairman of the Coverage Plan Committee, reported at length relative to "Mutual Aid and its problems under Existing Firemanic Law," and outlined a questionnaire to be sent to every Fire District and Department in Dutchess and Putnam Counties to be returned for discussion at the special meeting of the Association to be held at Wassaic on March 2. A number of visitors were present, including Chief Knickerbocker, President of the Fairfield County Chiefs Emergency Plan, Secretary Chief Moehring and Chief George Brencher, also of the Fairfield Plan; Chief Krows of Hastings, President of the Westchester Plan, Secretary Dawkins of the Westchester Plan and others. The use of the recently recommended Question Box opened the way for considerable discussion on the use of 1½ inch hose, chimney fusees, proper steps in ventilating, and the tandem use of pumpers of unequal capacity. Unfortunately the evening was not long enough to fully cover the topics. After the session, the members and guests went to the Pawling firehouse where after an inspection of the local apparatus, a supper and motion pictures were enjoyed.

A special meeting of the association was held at Firemen's Hall in Wassaic on March 2, at which time various matters pertaining to mutual aid and coverage were discussed. The plan for calling help in the vicinity revolves around a special trunk telephone, which is to be placed in Fire Headquarters in Poughkeepsie, to which Chiefs in need of help will make a call, and the operator on duty there will make the subsequent calls that will bring aid. Thus a Chief in need of certain types of apparatus will only need to tell this man on duty what he wants and go back to his fire, knowing that calls will be made on this special telephone until the available apparatus is on the way to help.

This plan was thought to be better than a code word, due to the fact that sometimes those who might ordinarily respond to help, might be out on a fire call of their own and unable to send that help, so that the man on duty can try various localities until help is located. This seemed the better plan at present, due to limited amount of fire ap-

paratus throughout Dutchess and Putnam Counties. Due to the fact, also, that fire companies in these sections are practically wholly dependent upon the help of the local telephone companies in sending an alarm of fire, emphasis was laid upon the need of proper education in sending in that alarm by persons who have a fire and also the need of great cooperation of the Fire Departments with these companies.

Future meetings are to be held as follows: March 2, Firemen's Hall, Wassaic, N. Y.; April 6, Patterson, N. Y., June 1, Mahopac, at which time it is now planned that the Fairfield Plan will take care of the discussions, and September 5 at Beacon, N. Y.

MODERN METHODS OF FIGHTING FIRES IN FRAME DWELLINGS

Nature of the Hazards in Such Structures and How Best to Handle the Situation When One of Them Catches Fire

By Chief John J. Brennan
Fire Department, Pelham Manor, N. Y.

WHILE frame dwellings may vary in size, style and design, the same general principles as to construction will be found in practically all instances. The hazards in the event of fire in such structures may therefore be definitely classified and certain basic principles of fire fighting can be applied to meet such hazards, so that fire may be controlled and extinguished.

Chief John J. Brennan

Frame buildings may be detached, semi-detached, or may be of type where such buildings are connected in rows. In all of these types the hazards in case of fire are:

First—The space between the outside sheathing and the lath and plaster inside finish affords a ready means for a quick extension of fire throughout the structure. A fire starting in the cellar may extend by this means up through the roof.

Second—The open stair hall in the front part of the first floor to all floors and rooms above, and in some cases the presence of an additional stairway at the rear from the kitchen on the first floor to sleeping rooms, known as the servants stairway, permits fire starting in any part of the building to extend very rapidly.

Third—The fact of the entire structure, including roof surfaces being combustible, presents the hazard and possibility of several buildings being involved through exposure in the event of fire occurring in an adjacent building.

How to Meet Hazards in Frame Buildings

To meet these hazards the points to be observed and procedure followed are:

If a fire starts in the cellar and extends to the ceiling and first floor, a quick examination and ventilation of the upper part of the building, including attic and cockloft, must be made, to note if the fire has extended through the space behind the lath and plaster. If the fire has reached such points the wall and ceiling must be opened up so the water from the line which has been stretched to this point can be delivered on the fire to head it off and extinguish it. Observe the direction in which the fire is extending and by opening up the wall and ceiling at points just ahead of it its extension will be prevented and the fire extinguished.

If the fire has extended to the upper part of the buiiding, the first engine company arriving should connect to the nearest hydrant and stretch two lines of hose, one to be taken to the cellar, and the second to the first floor.

If required, the second engine company should stretch a line by the stairway to the second floor. The first truck company on arrival will raise ladders to the front, rear and sides and ventilate by opening all windows, so the line or lines working up stairways can advance. The truck company will then work in on the floor and open up lath and plaster walls and ceiling where necessary.

If the Building Is Entirely Involved

If, upon arrival, it is found that a frame dwelling of the detached type is entirely involved by fire, and adjacent buildings are exposed, the first engine company should stretch two lines and operate both from the outside to protect the adjacent buildings on either side, as well as to extinguish the fire.

The second engine company will also stretch two lines, taking one line to the first floor front, and the other to the cellar by rear outside stairway. The third due engine company will stretch into the rear and operate line on fire, wetting down buildings at the rear if necessary. Where the fire extends through a dwelling in a row of similarly constructed buildings, the necessity for additional alarms is evident. The companies arriving on additional alarms should be deployed to extinguish the fire in other buildings caused by heat radiation or sparks, using chemical lines, extinguishers, buckets, etc., or, if conditions warrant, stretching additional hose lines from engines to buildings on fire.

In case of heat radiation or sparks endangering surrounding structures, efficient patrols should be immediately established, all available aid of occupants of buildings to be directed to wetting down roofs by means of buckets, etc., and where necessary there should be no hesitancy in using hose streams to thoroughly wet down and cover any buildings in the path of the flame or heat radiation to prevent such buildings from being ignited.

Fire in Semi-Detached Type

In the case of semi-detached type of frame buildings, the dividing wall between the dwellings may be ordinary stud, lath and plaster, or there may be brick filling between the studs; in some instances the wall may be of hollow tile. Such dividing wall is seldom an effective fire stop to prevent fire from extending from one building to the other, for the reason that, due to inferior workmanship, fire soon renders it subject to early collapse. In many cases it will be found that such wall is carried from the foundation to the ceiling of the top floor only and there is an open space between the buildings from the top floor ceiling to the roof, and caution must be used to look for and stop the fire at such point.

Hazards of the Cock-Loft

Where frame dwellings are constructed in attached rows, this condition of an open cock-loft or space between the

Portable Lights Added to Los Angeles Fire Department

Portable floodlights manufactured by the S & M Lamp Company, Los Angeles, Cal., are now in use by the Los Angeles Fire Department. The lights may be used with portable generators or connected to a 110-volt electric power system. All lights on the apparatus in the photograph are made by this company and include portable floodlights, headlights, searchlights, safety spotlights, pickup lights and tail light.

top floor ceiling and roof, from two to four feet deep, not fire stopped between buildings, is a typical condition. Quick examination as to spread of fire through this channel must be a first consideration on the part of the officer in charge and hose lines must be stretched to head off such extension.

Where fire has gained headway and extended into the ceiling of one building in a row of this type, lines of hose should be stretched to the top floor of the buildings on each side of the building on fire. The ceilings of the top floor of such buildings should be opened to see if the fire has extended to such points, and the lines stretched there should be used to stop it.

It is sometimes possible, where scuttle openings exist on roof, to open scuttle covers to make examinations of such places, and such means will be taken if possible. Even where the party walls do extend through the roof, the floor beams of adjoining buildings resting on foundation or party walls, may not be properly separated by incombustible material, and there is always danger of fire passing from one building to another through open spaces where the beams meet, and such points must not be overlooked.

In many suburban sections the exterior finish of many one and two family dwellings is of stucco type, or of metal pressed to resemble stone or brick, but neither of these forms offer any substantial resistance to fire extending, and the same general hazards are present as in the case of ordinary frame construction.

Dangers of One-Story Frame Bungalows

One story frame bungalows at sea shore resorts or summer colonies, usually elevated on pile foundations, about a foot or more above the ground, grouped closely together, and in some localities covering considerable area, present a hazard of real importance for the thought of the Fire Chief.

The open space beneath the buildings is usually littered with an accumulation of paper, lumber and other combustible rubbish. In case of fire starting in or under such buildings, this space acts as a powerful flue and a quick running fire develops.

Most of the work at such a fire is to be done from the outside, lines to be placed to head off the fire, kept moving and changing positions frequently and good pressures maintained at the nozzles.

(From a paper read before the February meeting of the Fire Chiefs' Emergency Plan.)

1,608 Deaths by Fire in Great Britain

According to figures published in *Fire*, 1,608 persons lost their lives by fire in Great Britain during 1933, an increase in ten over the total for the previous year. Forty-seven persons lost their lives before firemen could reach them. There were 535 children between the ages of one to five years who lost their lives, and 166 women seventy-five years and older. These figures do not include the large numbers physically incapacitated for life.

Rhode Island Chiefs Install Officers

The annual banquet and installation of officers of the Fire Chiefs' Club of Rhode Island was held at the Narragansett Hotel, Providence, with an attendance of nearly five hundred persons. Chief Frank Charlesworth, Providence, was toastmaster.

Many distinguished people were present as guests including Governor Theodore Francis Green and Lieut. Gov. Robert E. Quinn. Both these officials gave short talks.

Lieut. Gov. Quinn was presented with a gold honorary fire chief's badge. A framed portrait of President Charlesworth was presented to the club by L. D. Pierce through Walter A. Henry. Prizes were distributed and professional entertainment provided. Former Lieut. Gov James T. Connolly was the installing officer.

A. Robert Black.

Aerial Ladder Delivered to Cambridge, Mass.

A hydro-mechanical aerial ladder truck manufactured by Peter Pirsch & Sons Company, Kenosha, Wis., has been delivered to Cambridge, Mass.

Manufacturers' Announcements

Selective Relay

A selective relay designed to cause municipal fire alarm boxes of the master type to be operated automatically by an interior alarm system, or to shut down certain machinery upon the operation of a fire alarm system, is being manufactured by the Gamewell Company, Newton, Mass.

Selective Relay

The mechanism is of the spring driven type responding to about sixty operations of the controlling electromagnet before it is run down.

A set of normally closed contacts and a set of normally open contacts are provided. Either set can be used for connections to the circuit to be controlled. The contacts are operated whenever the circuit in which the controlling electromagnet is connected, is operated by a definitely timed signal. They are automatically reset when the relay is wound.

Federal Electric Siren

A specially designed one-horsepower vertical type ball bearing motor is being used by the Federal Electric Company, 8,700 South State Street, Chicago, Ill., for their new Fedelcode siren. The makers say that the motor will accelerate from zero to 5,000 r.p.m. in three seconds.

The motor operates on 110-volt a.c. or d.c. current and 25-60 cycles. The special aluminum alloy rotating rotor is dynamically balanced.

The net weight of the siren is seventy pounds, and it measures twenty inches in height and seventeen inches in width. When connecting it, no line transformer is necessary. It comes provided with a conduit box on the base of the siren.

Fedelcode Siren

St. Louis Buys Six Pumpers

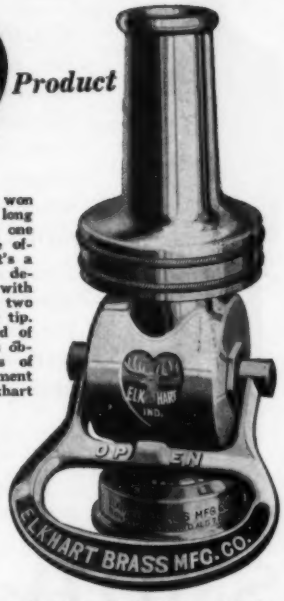
The city of St. Louis, Mo., on February 8, awarded a contract to the General Fire Truck Corporation of St. Louis, for six of their super Monarch 750-gallon pumpers.

A drill school has been organized at Taunton, Mass., and salvage work is now being done.

A volunteer fire company has been organized at Carrolton, Ohio, and Seagrave fire apparatus costing $4,950 has been purchased. Charles F. McLaughlin is Chief.

A NEW JUMBO SHUT-OFF NOZZLE

Another ELK HART IND *Product*



Elkhart Shut-off Nozzles have won a wide world reputation for long and efficient service. Here is one of the newest—one not to be offered by many other firms—it's a JUMBO shut-off. 2½" fire department thread at both ends, with 1½" waterway. Used between two lines by simply removing the tip. Tip can then be used on end of the line. Various thread sizes obtainable. This and hundreds of other items every fire department needs are found in the Elkhart Catalog E.

A SIGNED THREE-YEAR GUARANTEE GOES WITH EVERY ELK SHUT-OFF NOZZLE.

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The M.S.A. ALL-SERVICE GAS MASK is the ONLY canister-type mask approved by the United States Government for protection against combinations of carbon monoxide and ALL other poisonous gases, smoke or fumes. It is light, easily and quickly adjusted, fits any face comfortably without drawing or binding, permits easy and natural breathing, hearing, sight and working freedom,—and when equipped with the Speaking Diaphragm (as pictured),—also assures clear and natural speech.

These are a few of the reasons why a majority of the country's fire departments use M.S.A. ALL-SERVICE MASKS. For more complete information, write for Bulletin EA-1, or better still, let us arrange a practical demonstration, without obligation to you.

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MINNEAPOLIS, MINN.

Manual of Fire Loss Prevention

The Federal Fire Council has issued a Manual of Fire Loss Prevention which is National Bureau of Standards Handbook No. 19 and may be purchased at the office of the Superintendent of Documents, Washington, D. C., for twenty cents. This paper bound book contains 156 pages.

There are chapters on determining outlay for loss prevention; fire-resistance classification of building types; structural control of fire spread; means for egress; safeguarding common and special hazards; construction and equipment for protection of records; fire alarm and watchman supervisory equipment; standpipe and hose systems; maintenance of fire protection equipment; inspection of properties, and other important information.

The Federal Fire Council was organized to serve as a medium of contact between federal government departments on matters pertaining to fire prevention and protection. It consists of sixty representatives organized into four main committees.

Sprinkler Head Operation

One-tenth of a second after the heat struck the solder, water deluged downward in sufficient quantities to extinguish the fire—45 gallons per minute. Such was the automatic action of the Rockwood Type "D" sprinkler head recorded for the first time in the history of the sprinkler industry by a high speed movie camera in the laboratories of the Rockwood Sprinkler Company at Worcester, Mass.

Taken at the rate of 192 frames per second, these films showed that it required only one-tenth of a second for the sprinkler head to operate from the time heat of the proper degree struck the solder, until water flowed. Besides showing the extreme speed of the sprinkler head, these films also furnished an excellent study showing the actual movement of parts and the distribution of water. In the various picture frames, the flying parts of the head actually appear to float in the air; the acceleration due to gravity, increased by the snap action of the figure-4 linkage, having comparatively little motion from one frame to the next.

The operation of five similar sprinkler heads was photographed at the same high speed and in three cases the water was shut as quickly as possible after the operation of the head. This was done so that the spray of the water would not obstruct the operation of the moving member parts, and in all cases the operation of the various members of the figure-4 linkage was in the same sequence and in almost identically the same manner.

Gasoline Does Not Always Burn

William B. Stout, the well-known airplane inventor and manufacturer of Detroit, Mich., told the following exceptionally interesting tale about a gasoline drum that passed through an intensely hot fire without exploding:

Not long after the absorption of Mr. Stout's company by Henry Ford, the original airplane factory caught fire and burned completely, although it was a so-called "fireproof structure."

During the process of removing the twisted steel columns and beams Mr. Ford himself appeared on the scene and about his only comment was that the principal difference between a fireproof building and one that is not fireproof is that a fireproof building is considerably more difficult to remove after the fire has done its work.

While cutting up the twisted steel debris with an autogenous flame, one of the workmen suddenly encountered a flare and flash such as he had never experienced before and he backed away from his work in pardonable haste. He had set fire to something, he didn't know what.

Upon inspection we found that he had cut into a drum of gasoline, and that the gasoline was burning violently.

The remarkable thing about this is that the gasoline tank or vessel passed through the intensely hot fire and held the gasoline through it all without any leakage. Of course the workman did not suspect that he was cutting into a tank containing gasoline. It is doubtful whether any workman would purposely do such a thing. However, no damage was done. There was no explosion.

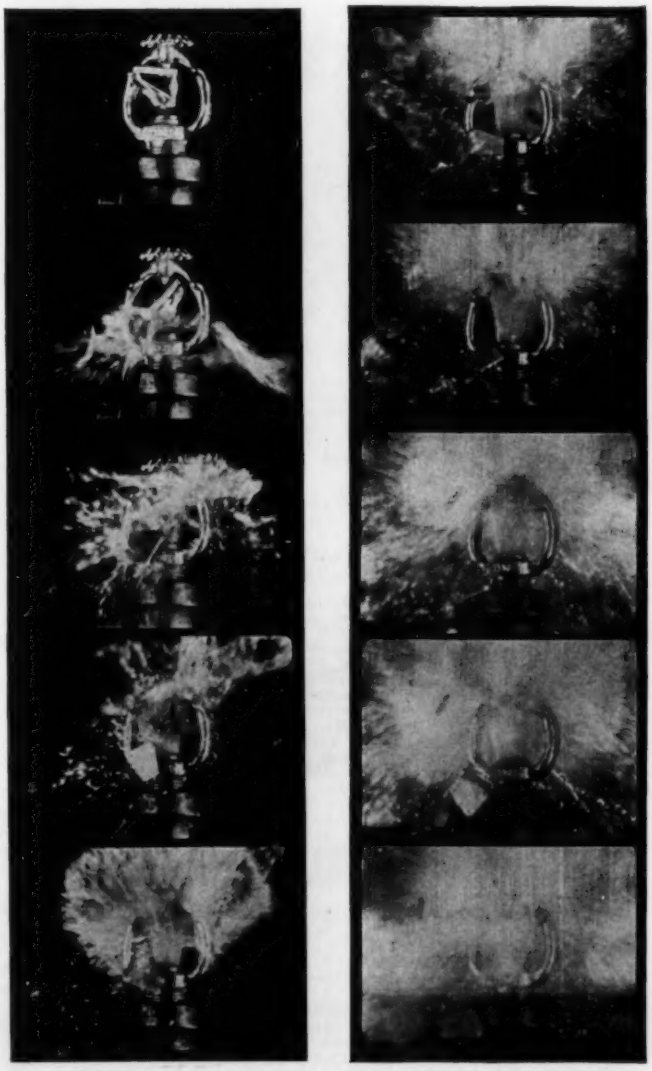
W. F. SCHAPHORST

Jacksonville, Tex., has started the construction of a drill tower thirty-six feet high for training its volunteer firemen.

Kimball, Neb., has placed an order for a 500-gallon pumper mounted on a Ford chassis. Delivery is expected about May 1.

Formation of a countywide fire district was advocated by San Mateo County, Cal., Associated Volunteer Firemen to provide adequate fire protection. Under the proposed plan, all city fire departments and small fire districts would be made into one unit in charge of a Chief Engineer.

Duncan C. MacDonald, Portland, Me., was elected President of the New England Veteran Firemen's League at the forty-fourth annual meeting held at Brockton, Mass. Sixty-eight delegates were present representing fifty-seven veterans' associations. Chief John F. Cutter, Newburyport, Mass., was elected Secretary.



Operation of Rockwood Sprinkler Head as Recorded by a High Speed Camera

CONVENTION DATES

March 20—FIRE CHIEFS' EMERGENCY PLAN (of Westchester County). Regular Meeting, Fire Headquarters, Eastchester Township, Tuckahoe, N. Y. Secretary, Walter M. Dawkins, 72 Thatcher St., Harrison, N. Y.

March 27—FIRE CHIEFS' EMERGENCY PLAN OF FAIRFIELD COUNTY. Regular Meeting, Fire Headquarters, Noroton, Conn. Secretary, John Moehring, Toms Road, Stamford, Conn.

April 6—MID-HUDSON-HARLEM VALLEY FIRE CHIEFS' ASSOCIATION. Regular Meeting, Patterson, N. Y. Secretary, Henry F. Drake, Clinton Corners, N. Y.

April 17-20—ARIZONA STATE FIREMAN'S ASSOCIATION. 12th Annual Convention, Yuma, Ariz. Secretary-Treasurer, H. W. Reggin, Prescott, Ariz.

April 24—FIRE CHIEFS' EMERGENCY PLAN OF FAIRFIELD COUNTY. Regular Meeting, Danbury, Conn. Secretary, John Moehring, Toms Road, Stamford, Conn.

May 8-10—GEORGIA STATE FIRE COLLEGE. Fire College, Atlanta, Ga. Address, Harry Phillips, Assistant Fire Marshal, Dept. of Fire, 166 Alabama St., S. W., Atlanta, Ga.

May 13-17—NATIONAL FIRE PROTECTION ASSOCIATION. 39th Annual Meeting, Atlanta, Ga. Secretary-Treasurer and Managing Director, Franklin H. Wentworth, 60 Batterymarch Street, Boston, Mass.

June 1—MID-HUDSON-HARLEM VALLEY FIRE CHIEFS' ASSOCIATION. Regular Meeting, Mahopac, N. Y. Secretary, Henry F. Drake, Clinton Corners, N. Y.

June 3-7—SOUTH DAKOTA STATE FIREMEN'S ASSOCIATION. 51st Annual Convention and 36th Annual Fire School, Hot Springs, S. D. Secretary, M. C. Sullivan, Parkston, S. D.

June 5-6—IOWA ASSOCIATION OF FIRE FIGHTERS. 13th Annual Convention, Davenport, Ia. Secretary-Treasurer, William Hottle, Des Moines, Ia.

June 11-14—ILLINOIS FIRE COLLEGE. 11th Fire College, under auspices of Illinois Firemen's Association. Address, Assistant Chief Roy W. Alsip, Secretary, Illinois Association, Fire Department, Champaign, Ill.

June 15—LEBANON COUNTY FIREMEN'S ASSOCIATION. 13th Annual Convention, Lebanon, Pa. Chief Fire Marshal, A. S. Stauffer, Palmyra, Pa.

June 17-18—MISSOURI VALLEY FIRE CHIEFS' ASSOCIATION. Annual Meeting, Hotel Paxton, Omaha, Neb. Secretary, Chief Ray Tiller, Waterloo, Ia.

June 17-19—OKLAHOMA STATE FIREMEN'S ASSOCIATION. 41st Annual Conention, Oklahoma City, Okla. Secretary-Treasurer, Charles Slemp, 820 East 19th St., Oklahoma City.

June 19—NORTHWESTERN OHIO VOLUNTEER FIREMEN'S ASSOCIATION. 62nd Annual Convention, Berea, Ohio. Assistant Secretary, R. T. Boone, Second Assistant Chief, Berea.

June 19-21—MARYLAND STATE FIREMEN'S ASSOCIATION. 43rd Annual Convention, Oakland, Md. Secretary, George R. Lindsay, Hagerstown, Md.

June 19-22—NORTHWEST FIRE COLLEGE. 8th Annual School, Spokane, Wash.

June 20—NEW JERSEY STATE FIRE CHIEFS' ASSOCIATION. Annual Meeting, Flanders Hotel, Ocean City, N. J. Secretary, Fred A. Trowbridge, 29 South Street, Morristown, N. J.

June 20-22—NEW MEXICO STATE FIREMEN'S ASSOCIATION. 13th Annual Convention and 6th Fire College, Santa Fe, N. M. Secretary-Treasurer, Theodore A. Rosenwald, Albuquerque, N. M.

June 20-22—ASSOCIATED MUNICIPAL SIGNAL SERVICES. Group Meeting, Municipal Signal Associations, Hotel Campbell, Poughkeepsie, N. Y. Secretary-Treasurer, Edwin P. Cochran, 420 Yale Ave., New Haven, Conn.

June 21-22—EASTERN ASSOCIATION OF FIRE CHIEFS. 8th Annual Convention, Flanders Hotel, Ocean City, N. J. Secretary, Charles E. Clark, P. O. Box 217, Wayne, Pa.

June 25-26—SOUTHEASTERN ASSOCIATION OF FIRE CHIEFS. 8th Annual Convention, Hotel Dempsey, Macon, Ga. Secretary-Treasurer, Chief R. S. Baughan, Norfolk, Va.

June 25-27—NEW ENGLAND ASSOCIATION OF FIRE CHIEFS. 13th Annual Convention, New Bedford, Mass. Headquarters, Hotel New Bedford; Exhibits, New Bedford Armory. Secretary-Treasurer, Chief John W. O'Hearn, Watertown, Mass.

June 26-27—PROVINCE OF QUEBEC POLICE AND FIRE CHIEFS' ASSOCIATION. 3rd Annual Convention, Quebec, Que., Can. Secretary-Treasurer, Chief Robert Harrington, Fire Dept., McColl-Frontenac Oil Co., Ltd., Windsor Hotel, Montreal.

July—MICHIGAN STATE FIREMEN'S ASSOCIATION. 61st Annual Convention and 7th Annual Fire College, Detroit, Mich., probably in middle of July. Secretary-Treasurer, Statistician and Director, Fire College, Charles V. Lane, Charlotte, Mich.

July 16-17—MARITIME FIRE CHIEFS' ASSOCIATION. 21st Annual Convention, Moncton, N. B. Secretary-Treasurer, Capt. K. J. MacRae, Salvage Corps and Fire Police No. 1, Saint John, N. B.

July 29-Aug. 1—WEST VIRGINIA FIRE SERVICE EXTENSION SCHOOL. 5th Annual School, West Virginia University, Morgantown, W. Va. Address, Secretary, W. Va., Fire Chiefs' Ass'n., C. B. Powell, Romney, W. Va., or Prof. Lewis V. Carpenter, Director, at University.

July 30—WEST VIRGINIA FIRE CHIEFS' ASSOCIATION. 4th Annual Meeting, West Virginia University, Morgantown, W. Va. Secretary, Chief C. B. Powell, Romney, W. Va.

Aug. 12-15—PANHANDLE FIREMEN'S ASSOCIATION. Annual Convention, Plainview, Tex. Secretary-Treasurer, Quincy Wilson, Vernon, Tex.

Aug. 13-15—WISCONSIN PAID FIREMEN'S ASSOCIATION. 28th Annual Convention, Wausau, Wis. Secretary-Treasurer, William H. Schultz, Sheboygan, Wis., Fire Department.

Aug. 18-21—NEW YORK STATE PERMANENT FIREMEN'S ASSOCIATION. 17th Annual Convention, Binghamton, N. Y. Secretary-Treasurer, Frank A. Emden, 1403 Mather Ave., Utica, N. Y.

Sept. 2-5—KENTUCKY FIREMEN'S ASSOCIATION. 16th Annual Convention. Georgetown, Ky. Secretary, W. S. Lipscomb, Fire Department Headquarters, Lexington, Ky.

Sept. 3-6—CALIFORNIA STATE FIREMEN'S ASSOCIATION. 13th Annual Convention, Glenwood Mission Inn and Municipal Auditorium, Riverside, Cal. Secretary-Treasurer, H. E. Strasser, 1171 Tenth Ave., San Diego, Cal.

Sept. 7—MID-HUDSON-HARLEM VALLEY FIRE CHIEFS' ASSOCIATION. Regular meeting, Beacon, N. Y. Secretary, Henry F. Drake, Clinton Corners, N. Y.

Sept. 24-27—INTERNATIONAL ASSOCIATION OF FIRE CHIEFS. 63rd Annual Convention, Hotel Andrew Johnson, Knoxville, Tenn. Secretary-Treasurer, Ex-Chief James J. Mulcahey, Yonkers, N. Y.; Chairman, Exhibit Committee, Chief M. T. Kenedy, East Orange, N. J.

Oct. 1-3—FIREMEN'S ASSOCIATION OF PENNSYLVANIA. 56th Annual Convention, Connellsville, Pa. Secretary, Charles E. Clarke, Wayne, Pa.

Oct. 15-17—ILLINOIS FIREMEN'S ASSOCIATION. 48th Annual Convention, Waukegan, Ill. Secretary, Asst. Chief Roy W. Alsip, Champaign, Ill., Fire Department.

CORRESPONDENCE

Enclosed Body for Fire Apparatus

To the Editor:

Some time ago I read an article in FIRE ENGINEERING, also an editorial, about using closed cars in the fire service of this country. I thought so much of it that I recommended to the City Council that it purchase a 750-gallon triple combination pumping engine, with an enclosed body. I took this matter up with several fire apparatus people and we had a sketch or blue print drawn of the closed car that we desired. The City Council voted to purchase a 750-gallon triple combination pumper, with closed type body, from the Mack Company. I believe that it is the first entirely enclosed car to be built in this country and if it does not work out satisfactorily I am going to hold you responsible for same, as it was your idea which you gave to the fire-fighting profession.

I am of the opinion that the closed type bodies will be the thing in the future for the protection of life and health. Last year we had a man raked off the side of a pumper by side swiping a tree in order to avoid a pedestrian.

Yours very truly,

W. H. PALMER,
Chief Fire Department,
Charlotte, N. C.

Activities in New South Wales

To the Editor:

The Sydney, New South Wales, Australia, Fire Brigade is shortly to receive a set of all-steel turn-table ladders of 100 feet, when extended. According to a fire report for 1934, which I read in one of our newspapers, nearly 2,000,000 gallons of water were used in extinguishing fires in Sydney, of which only 12,963 were sea water. No fewer than 2,929 fire alarms were sounded in Sydney and its suburbs during the year—218 more calls than in 1933. False alarms totalled 840.

The most notable fire was the plant of Peters, Bryden & Peters, motor body builders, of Waterloo.

Yours very truly,

JOSEPH GUNNER, JR.,
501 Balmain Road, Leichhardt, Sydney, N. S. W.

Chief Grabner of Baker, Ore., Retires

Chief Frank H. Grabner of Baker, Ore, was tendered a farewell banquet to mark his retirement from the fire service following twenty-seven years' service to the city.

Chief Grabner, who is seventy-five years old, has been given life membership in the Oregon State Association of Fire Fighters and the International Association of Fire Fighters in recognition of his loyalty to the service.

Chief Welch, Columbus, Ohio, has recommended in his annual report that the city abandon two of the present fire stations, and erect three new ones. He also urged the purchase of modern fire helmets for all his men, installation of radio receiving equipment in the automobiles of the district chiefs, the installation of a high pressure system in the down town area, purchase of new pumpers and a ladder truck, as well as gas masks.

The "Special" Line of

UNIFORMS & FIRE CLOTHES

(with patented detachable lining)

For Winter and Summer Wear

Uniforms — **Shoes**
Uniform Overcoats — **Jackets**
Boots — **Shirts**
House Pants
Bunker Coats and Pants
(with or without detachable lining)

All Uniforms and House Pants are Made to Measure and

UNION MADE

We are patentees of the detachable feature of firemen's coat which provides a heavy blanket plaid lining (70% wool) which is removable in warm weather. The most satisfactory garment for winter and summer wear. Water-proof bunker pants with detachable lining in same materials.. The outer water-proofed fabric will not absorb water, and ice will not cling to it. Very tough and durable, will turn 10 penny nail. Our garments are the result of years of study and experimentation. Bunking outfits and coats without detachable lining if preferred. We have them all—a complete line for firemen. Write, or wire if you are in the market for immediate delivery or send for catalog showing our complete line. We solicit opportunity of bidding on city orders.

Illustrating Fireman's coat and bunking pants, both with detachable lining.

SPECIAL CLOTHING CO., Inc.
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BULLARD

Hard Boiled Fire Helmet. Comfortable; light weight; attractive appearance; heat resisting; a non-conductor of electricity; and blow resisting. Write for catalog.

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SOUTH	CHATTANOOGA, TENN.	C. D. Genter Company,	Chattanooga Bank Building
MID-WEST	DETROIT	C. H. Dockson Company	2505 East Grand Boulevard
	CHICAGO	E. D. Bullard Company	215 South Leavitt Street
	GREEN BAY, WIS.	Safety Service Company	108 No. Quincy Street
	DULUTH	W. P. & R. S. Mars Company	334 W. Michigan Street
	HOUSTON	E. D. Bullard Company	1 Main Street
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VOLUNTEERS FIGHT BLAZING BRUSH

Firemen Use "Indian Pump" Apparatus in Battle With Blaze.

Eight men wearing "Indian pumps" contrivances strapped on their backs from which a spray is pumped by hand, concentrated on the point where the flames were threatening the woods, and after a stiff fight had the fire under control.

This clipping is typical of many such from newspapers throughout the country. Every day—everywhere, from Alaska to Puerto Rico, INDIAN FIRE PUMPS are called upon to save lives and property from FIRE.

That they do the job quickly and thoroughly is evidenced by the continual flow of enthusiastic letters from foresters, fire wardens, fire chiefs and private citizens who have used them successfully.

If you want the lowest priced Fire Insurance with the greatest Protection equip with INDIAN FIRE PUMPS immediately. When you get an INDIAN you get *the best.*

COMBINATION BRASS NOZZLE FOR 50 FOOT STREAM OR LONG COARSE SPRAY
COMBINATION BRASS HANDLE FOR CARRYING TANK AND FOR HOLDING PUMP
HEAVY CAST BRASS QUICK OPENING WATER TIGHT FILLER CAP WITH REMOVABLE BRASS STRAINER CAP HAS RUBBER CHAIN TO PREVENT LOSING
EXTRA HEAVY TANK HAS SOLID BRASS BOTTOM. ALL JOINTS LOCKED AND SOLDERED BUILT STRONG
PATENTED

FORM-FITTING, VENTILATED TANK GIVES A CONSTANT CIRCULATION OF AIR BETWEEN TANK AND CARRIER'S BACK. IT PROTECTS THE BACK FROM THE COLD WATER AND MOISTURE IN THE TANK AND KEEPS THE BACK WARM AND DRY. THE FORM-FITTING SHAPE OF THIS TANK FITS THE BACK PERFECTLY. SNUG AND FIRM AND FEELS GOOD.

THE INDIAN FIRE PUMP

uses only clear water, no chemical to buy or bother with. Quickly refilled from stream or faucet. Throws 50-ft. unbroken fire stream with ease. Ventilated tank feature keeps carrier's back warm and comfortable, and this is a great aid in the hazardous work of fighting fires. The Indian combines the ideas of the foremost authorities on forest, brush, grass, and grainfield fire fighting.

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The spring—with its grass, rubbish and brush fires, is almost here. Are you fully prepared to fight these nuisances? Have you a supply of strong, always reliable INDIAN FIRE PUMPS on hand? If you have there's nothing to worry about—but if not, NOW is the time to find out more about these 5 gallon extinguishers that use only clear water and are so popular with rural and city departments everywhere.

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REDUCE WATER DAMAGE AND INSURANCE RATES

SHUREDRY is the cover that fire chiefs all over the country have endorsed for superior service. Made of our special process chemically treated canvas, they resist both heat and cold. SHUREDRY covers will not crack or split on your storage shelves—easy to handle—give better service. SHUREDRY covers pay for themselves several times over in reducing water damage and are an essential part of the equipment of progressive chiefs everywhere.

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Manufacturers Since 1870
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WHEAT FIRE OFFICERS SPOTLIGHT

25,000 Candlepower at $17.50 (Single Bulb Type) Chrome Plated and Weighs only 87 ozs.

The Light That Never Failed—

because it is equipped with a rechargeable battery and a double filament bulb.

Its battery has a life of 1000 hours, *not* 10 *hours.*

Its bulb has a life of 100 hours, *not* 10 *hours.*

By the use of the Shoulder Strap, which is supplied without charge with the light, both hands are left free to climb ladders or to work with.

See your dealer or write direct.

KOEHLER MFG. CO.
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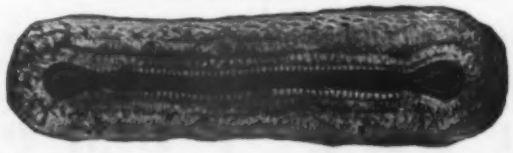
Bi-Lateral Fire Hose



The one hose that does not require frequent replacements. Always reliable for fire service no matter how old, if the jackets are intact.

Lined with three rubber tubes.

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15 Park Row, New York, N. Y.
20 N. Wacker Drive, Chicago, Ill.

HEWITT-GUTTA PERCHA FIRE HOSE

A complete line, including
Wax Treated - Solid Multiple Woven
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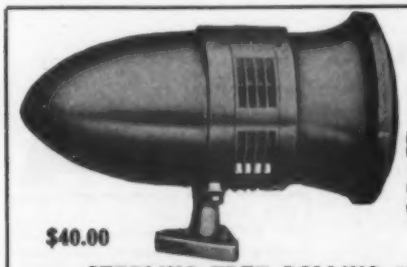
Single and Double Jacket Hose

Manufactured by
HEWITT RUBBER CORPORATION
BUFFALO, N. Y.
"Territories Available"



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GEORGE J. KUSS, Vice-Pres. and Treas.

Westchester Chiefs Discuss Traffic Rules

An important report on traffic rules was a feature of the regular meeting of the Fire Chiefs' Emergency Plan, held at the Live Oak Fire House, Elmsford, N. Y., on the evening of Wednesday, February 20. The report was by Roi B. Wooley, Ex-Batallion Chief of Larchmont, N. Y., Chairman of the Ways and Means Committee. The report pointed out that the present congestion of traffic badly hampered apparatus both approaching and at a fire; so much so, that late arriving companies can hardly get near the building involved. Recent decisions were cited, showing that the passing of red lights by fire apparatus was illegal under present laws, and that volunteers were liable for injuries caused under such circumstances. It was suggested that a legal committee be appointed to draw up laws covering the situation. Rules and regulations for volunteer drivers of apparatus were also suggested.

The Plan was welcomed by Mayor Thomas English, of Elmford. Treasurer Riviere spoke of the severe illness of Chief Towle, Larchmont, "Father" of the Plan, and the Secretary was instructed to send the good wishes of the members to him.

A paper was read by Chief John J. Brennan, of Pelham Manor, on "Fires in Frame Dwellings." Chief Brennan said that the hazards of fires in such structures arose from spaces between walls, behind lath and plaster; exposed stairways, and the inflammable nature of the entire structure. He described the methods of fighting fires in frame structures, stressing especially the need of watching out for the spread of the fire, where there are cocklofts in attached dwellings or stores. He also spoke of the dangers arising from small one story bungalows, built close together at resorts.

A short talk on First Aid was gvien by Captain Yates, of the Red Cross. Ten new members were elected. Addresses were also made by President Levy, of the Westchester Volunteer Firemen's Association and by George C. Reitwiesner, Chairman of the Law Committee of that association.

On invitation of Chief Steuhl, it was decided to meet at Headquarters Eastchester Township, on the evening of Wednesday, March 20. Refreshments were served by the Elmsford department after the meeting.

Summer Places Razed at Gloucester, Mass.

The frame Good Harbor Beach Inn and two adjoining cottages in the Brier Neck summer colony, Gloucester, Mass., were destroyed and three other cottages were damaged in a spectacular fire which was discovered at 3:30 a.m. on February 5. The hotel was four stories high and contained accommodations for one hundred guests.

Gloucester firemen, under Chief Homer R. Marchant, were handicapped by low water pressure as only one small water main was available. Lines of hose were run long distances and water was pumped from a pond nearly a quarter of a mile away.

A stiff northwesterly wind was blowing and the night was very cold. The fire apparently started in a cottage adjoining the hotel. This building was nearly destroyed and the hotel was involved in flames by the time the firemen reached the scene.

The buildings were all vacant for the winter, but it is reported that a party had been held in one of the cottages the night before the fire. The loss was estimated at $50,000.

HARRY BELKNAP.

Cause for Fire Hose Failure

Chief George B. Goff, of the Oklahoma City, Okla., Fire Department has been much concerned over the rapid deterioration of its fire hose which seemed to burn out back of each coupling as though from an acid. This trouble has been experienced the last few years although the couplings and rings are of much better material than formerly. In order to learn the cause for these burns, Chief Goff had the City Chemist make a number of tests. The following report was submitted by C. E. Clifford, City Chemist, after the tests had been completed:

"In my opinion the cause of the deterioration of this hose is due to the puncturing of the inner lining of rubber by the copper collar. When this rubber lining is punctured, water seeps into the fabric and creates a voltaic cell which generates a constant and a readily detectable quantity of electric current.

"When the threaded hose connection and the inner collar are submerged in the city water an electric current of one-seventh volt is generated immediately. In my judgment, this quantity of electrical current generated would be increased in direct proportion to the time that these two parts were submerged in our city water, and would be continuously increased on account of the increase of the metallic salts which would be formed under this condition. Therefore, the longer the hose connections remain moist and the fabric saturated with water, the more rapidly the fabric would be deteriorated by an increase of the metallic and sulphate ions in the water.

"There is enough difference in the composition of the two pieces of metal to form a positive and a negative plate, and it would appear to me that the difference is a definite error in the manufacture of the hose connection, and in order to correct it, the collar and the outside connection should be made of the same composition.

Massachusetts Chiefs' Club Meets

Mayor John C. Mahoney, of Worcester, and Otis C. White, President of the Box 4 Associates, Inc., were the principal speakers at the meeting of the Fire Chiefs' Club of Massachusetts which was held on February 20 in the Hotel Bancroft in Worcester.

Chief Fred A. Clark, of Attleboro, presided. Chief Charles L. McCarthy, of the Worcester Fire Department, introduced the speakers and after the meeting gave a demonstration in front of fire headquarters of the new Ahrens-Fox aerial ladder truck of the Worcester department.

Chief William C. Mahoney, of Peabody, reported on several bills pending in the state legislature.

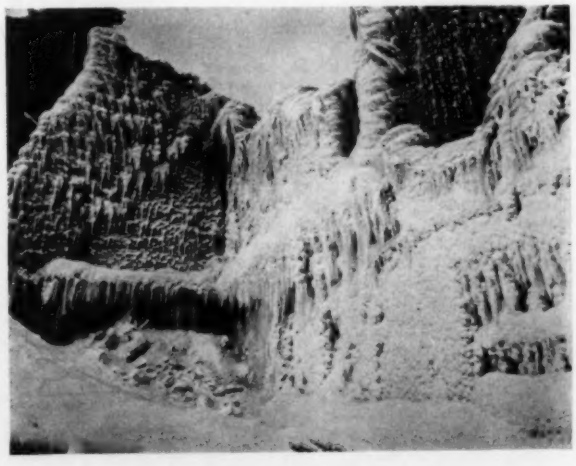
The Mayor said that he fully approved of city officials attending conventions, because of the great benefits they obtained from such meetings and declared that he always encouraged the heads of departments going to these meetings, with expenses paid by the city. He also said that Worcester has restored the pay of city officials which it had reduced several years ago.

Mr. White told of the services rendered to the Worcester Fire Department by the members of the Box 4 Associates. Other speakers were Supt. Lorton C. Walden, of the Worcester Protective Department, and Chief George L. Johnson, of Waltham.

HARRY BELKNAP.

A drill tower has been erected at Leominster, Mass., with the assistance of ERA funds, and a drill school is now being conducted for firemen.

A set of three blue prints, each 24 x 40 inches, has been prepared of the model house constructed by Chief Green of the Morris Township Fire Department, Morristown, N. J., and illustrated in the October, 1934, issue of FIRE ENGINEERING. These prints will enable one to construct a similar structure. Sets are being sold by Chief Green for five dollars.



Why Some People Prefer Less Exciting Pursuits

Winter may be the season of sports to some, but to firemen it means frostbite, frozen clothes and hose lines, and difficult working conditions. A seven-story grain elevator was transformed by hose streams into an ice castle for Jack Frost.

FALSE ALARMS

JUST NOT NOTICED

The central station was used as a common meeting place much in the same manner as the town's post office. It was common to post notices on the bulletin board regarding coming events.

A kind hearted old lady, called and left some notices regarding an evangelistic meeting to be held on Sunday. Going out she noticed one of the steady visitors to the station leaning against the door. The leg of one trouser was flapping with the breeze.

"Goodness, me!" she exclaimed sympathetically. "Why, you've lost your leg, haven't you?"

The cripple surveyed the place where the leg should have been and then dryly exclaimed, "Well I'll be darned if I haven't."

The Florida Citrus Growers' Clearing House Association has given twenty carloads of grapefruit for the treatment of influenza in northern cities. That's advertising that hits 'em in the eye.

TO THE POINT

The Fire Department had sole say over the fire hydrants, and that rule was strictly enforced.

Some children of the neighborhood wished to flood an empty lot so that they could have a skating pond. The boldest one of the group was selected to call on the Chief and ask his permission to flood the lot.

Rather boldly he went to the upstairs office, waited until he was called and then asked the officer:

"Can you g-give me f-f-fifteen minutes of your t-time?"

"What do you want so much time for?" asked the Chief good-naturedly.

"S-s-so I c-can t-talk t-to y-you f-f-five minutes."

It wouldn't hurt any if the colleges would work their way through some of the students.

BAD BARGAIN

After his barn had burned down, a farmer applied for the insurance to cover the loss.

The agent, after inspecting the ruins, told the farmer he would recommend that the company replace the structure rather than pay the loss in cash, as provided by a clause in the fire insurance policy.

The farmer got rather angry at this and roared at the agent:

"Say, if that's the way you do business, you can just cancel that life insurance policy you sold me on my wife."

BACK TO FACTS

Due to financial assistance, the city was again able to publish an annual report of the Fire Department, as it had for many years before. The Mayor's secretary asked the chief to call at a certain studio to have a photograph taken.

The photographer adjusted his lights, focused his camera, and after surveying his sitter, remarked, "Look pleasant, please."

Click. The picture had been taken.

"It's all over, Chief," he said, "you may resume your natural expression."

Pity the mere man. He has to keep his back to the wall and his ear to the ground. He's expected to put his shoulder to the wheel and his nose to the grindstone, keep a level head, and have both feet on the ground. And at the same time, look for the silver lining.

LESS NOTEWORTHY

One of the local ward heelers climbed the flight of stairs to the Chief's office, entered with a beaming face and said to the officer:

"Have a cigar?"

The Chief looked up from his work and replied, "Don't mind if I do. But what's the occasion? Why this lavish display?"

"Ah, I've got an addition to the family."

"You don't say so? Congratulations!"

The Chief lit his cigar, meditated thoughtfully as the smoke curled towards the ceiling and then remarked to his caller:

"About the fifth child, I should say."

PROPERLY INDEXED

It was during Fire Prevention Week, and a fireman in uniform was detailed to carry the department's message to a colored congregation.

The colored minister felt quite honored at the presence of the fireman and introduced him by saying:

"Breddern, it is not often I arise to present a white speaker in this church. But you can be sure he has a powerful message for you. An' while his skin may be white, his heart is as black as any of us."

Diplomacy has been defined as the art of letting someone else have your way.

THE WRONG GOOD

Mike was the porter at fire headquarters, and Mike was the one who seemed to know all the happenings at the main office. When there was an opening for a stenographer, he told his daughter, and she told her friend to apply. The two girls met the next day.

"Did you apply for that job for a good stenographer?"

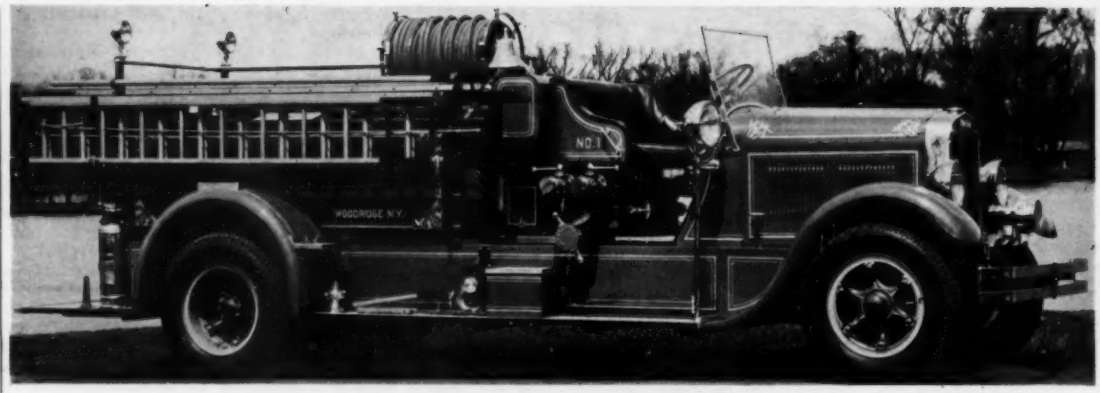
"Yeh! But he wasn't looking for my kind of 'good.' An old maid got the job."

—*Drawing by "Art" Espey*

Even the Dog Has a Floury Smile

Rookie: "Just because I worked in a bakery the Captain don't have to keep kiddin' me. He said, he kneeded well-bred firemen—to quit muffin'—and to grab a 'doughnut' off the truck!"

Chief: "Yeah! Well, he's right. We have no room for 'cream puffs' in this outfit. By the way, suppose you polish up the Baker cellar pipe, make sure it's in apple pie order, and then roll back in and I'll see if you are worth your dough."



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Recognized throughout America for their outstanding smartness, comfort and durability.

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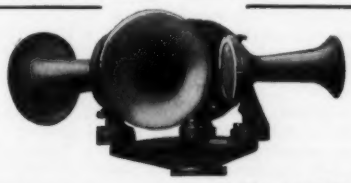

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The Modern Fire Alarm which is instantly recognized above the other city noises. For any type of fire alarm, electric or air, write—

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FIRE PUMPS HALE CONSHOHOCKEN PA

THE success of Hale pumps is based on careful intelligent design, the best of workmanship and materials plus thorough and honest manufacture.

HALE FIRE PUMP CO., Inc.
CONSHOHOCKEN, PA.

WATEROUS FIRE PUMPS

WATEROUS COMPANY
SAINT PAUL, MINNESOTA

CLASSIFIED ADVERTISING

Bids Wanted, For Sale and Help Wanted $4 per inch.
Position Wanted, $2 per inch. Column width, 1⅝ inches.

Salesman Wanted

Fire hose Salesman wanted by old reliable manufacturer. State territory you can cover and other details. Address: Box No. 745, c/o FIRE ENGINEERING, 24 W. 40th St., New York.

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When in the market

for equipment or supplies make your wants known through FIRE ENGINEERING. More bidders mean more competition and better satisfaction.

Fairfield Chiefs Meet at Long Hill, Conn.

The February meeting of the Fairfield County Fire Chiefs' Emergency Plan was held at the fire headquarters of the Long Hill, Conn., Fire Department on Thursday evening, February 28. The meeting was presided over by Chief Daniel Knickerbocker, President. Greetings from Long Hill were extended to the Chiefs by President William Sherman, as well as Chief Charles Kellogg, of the Long Hill Department.

The meeting voted to send Chief Victor Veit, of Stamford, who was ill at his home, a letter wishing him a speedy recovery.

The question box was then opened and the two questions, "What causes a backdraft?" and "In storing soft coal with water in the cellar, is there any danger of fire, where a steam pipe runs through the coal bin, coal being piled four feet high and twelve feet wide?" were answered by Assistant Chief Stuart Potter and Chief Frank Gisborne of Old Greenwich and Jules Steffen of Albany, N. Y. Gases were responsible for a backdraft and a danger of fire exists in the storing of soft coal were the answers in the general discussion that followed.

Considerable discussion took place on the matter of fire districts in the towns of Fairfield and Westport. Although no controversy exists between the two Fire Departments, people living in a section of Westport are making an attempt to have the department from Fairfield answer alarms in this district.

Ex-Chief William Haughes, of Glenbrook, created considerable surprise when he asked the attending Chiefs how many of them submitted reports of their fires, where property damage was involved, to the State of Connecticut. It seemed from the consensus of those present, that not very many knew of this law, and the legislative committee was authorized to obtain a copy of this law and submit it at the next meeting. It seems the volunteer Chiefs receive $2 for every call their department answers, while a fine and a jail sentence is provided for those who do not make these reports. It was agreed that the proper authorities had been lax in not advising the Chiefs of this law. Chief McNamara and Ex-Chief Peter Beckerle, of Danbury, Capt. Walter Dawkins, and Chief Morse, of Easton, were heard.

Father Kilian, Chaplain of the Bridgeport Fire Department, was an interesting speaker, and said that Fire Departments are criticized unjustly and that many people who think the life of a fireman is easy, because they are seen around the fire headquarters all day "doing nothing" should go out with them to a fire at 3 a.m. in below zero weather. He said that everytime he heard the gong of the department ring, he said a prayer to himself, praying that all the men would return.

Earle J. Brown, of the Monarch Chemical Sprinkler Company, of Fairfield, Conn., was the principal speaker of the evening and told of the advantages and uses of his company's new permanent and portable extinguishers. He displayed blue prints, showing how they are installed, and demonstrated how the sprinkler operates when the proper temperature is reached, showing a fusable link melting and putting the sprinkler in action. Other speakers during the evening were: Chief M. W. Lawton, of Middleton, Past-President and founder of the Middlesex County Fire Chiefs' Association and Chief John Morehouse, of Brewster, N. Y., President of the Mid-Hudson Harlem Valley Fire Chiefs' Association.

New members who were elected to membership were: Chief Manne Norrell, Tunxis Hill Fire Department; Commissioner Edward Herman, of Fairfield and Assistant Chief Victor Grassi, of Fairfield.

On an invatation of Chief Thomas Boyle, of Noroton, the next meeting of the Plan will be held at the Noroton Fire Headquarters, Boston Post Road, between Stamford and Darien, on Wednesday evening, March 27.

Daniel, Fire Prevention Engineer, Dead

Frank R. Daniel, Chief Engineer, Wisconsin Fire Insurance Rating Bureau and widely known as a fire prevention engineer, died February 6 at the Milwaukee Hospital.

He was born at Lafayette, Ind., and was educated at Sandusky, Ohio. From 1902-1913 he was with the Indiana Fire Inspection Bureau, and from 1913-1920 was associated with the Western Actuarial Bureau, Chicago. In 1921 he was appointed Chief Engineer, Wisconsin Fire Insurance Rating Bureau, Milwaukee. He was Chairman of the Fire Prevention Committee of the Association of Commerce and was a Past-President of the Western Association of Electrical Inspectors.

He is survived by his widow, and a daughter who is a Senior at the University of Wisconsin.

Three Alarms Sent for Salvage Plant Fire

Fire from an unknown cause completely destroyed the Poppy Fund Returned Men's Salvage plant, Toronto, Canada. The plant was of brick and wood mill type construction, built over fifty years ago, and formerly used as a plough factory. It had been occupied by the returned men for a salvage plant of waste materials. The night shift had completed work at 2 a.m. and when the watchman made his tour of inspection at 4:25 a.m. he heard a small explosion near the boiler room. He rushed from the plant as the north wing of the building was in flames, and sent in a box alarm.

When the engine companies responded on the first alarm from their quarters several blocks away, they found the entire plant in flames. District Chief Sandy Deans sent in a second alarm which brought six engine companies, three ladder companies, George Sinclair, Chief of the Department, Assistant Chief McLean, District Chief Fox, Dr. Hill, the department's surgeon, fuel car, and an emergency car from the gas company. When those companies arrived, the fire had spread into the south wing where 150 tons of telephone books were stored. At 5:30 a.m., Chief Sinclair ordered a third alarm bringing four engine companies, and several ladder companies.

A strong gale from the east spread the fire into the three story building. Efforts were made to protect the surrounding buildings. A very heavy downpour of rain prevented hundreds of roof fires that would have normally occurred in the surrounding district due to flying embers. Ten lines of 2½-inch hose were used on the south side from the railway tracks, ten lines from the west side, four from the north side, and two from the east side.

At 8 a.m. the fire was under control and at 10 a.m. the third alarm sections were sent back. The second alarm sections returned at 11:20 a.m. and the fire was struck out at 11:45 a.m.

Thirteen engine companies, six ladder companies and over one hundred men were at the fire. No one was injured. The loss is estimated at $50,000. J. K. LEE.

Department and Other Reports Received

Amsterdam, Holland—Annual report of the fire brigade, Amsterdam, Holland.

Fort Dodge, Ia.—Annual report of Chief H. J. Callahan, Fort Dodge, Ia., with recommendations; five typewritten pages.

Prince Albert, Canada—Annual report of the Fire Department, Prince Albert, Saskatchewan, Canada; three typewritten pages.

Metropolitan Fire Brigade, Victoria, Australia—"The Rise and Progress of the Metropolitan Fire Brigade," Victoria, Australia. History of the fire service prepared by Samuel Mauger, J. P.; illustrated, forty-two pages.

Colorado Fire College—Report of the proceedings of the fourth annual fire college and the eighteenth annual convention and tournament, Colorado State Firemen's Association held at Canon City, Col.; illustrated, seventy pages.

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14 Battery Zincs for Fire Alarm Batteries
15 Bells, Fire Alarm, Municipal
16 Body Equipments
17 Boxes, Gongs, Reels, Registers, Fire Alarm
18 Brakes, Air
19 Brake Linings
20 Brooms, Fire
21 Building Materials, Fire Retardant
22 Caps, Firemen's
23 Chains, Non-Skid, Fire Apparatus
24 Chassis for Fire Apparatus
25 Chemical Engines and Tanks
26 Chimney Fire Fuses and Compounds
27 City Service Trucks
28 Coats and Suits, Firemen's Quick Hitch
29 Combination Chemical and Hose Cars
30 Cutting and Welding Equipment, Blow Torch
31 Cutting and Welding Equipment, Electric
32 Deluge Sets
33 Door Openers, Fire Station, Automatic
34 Electric Light Plants
35 Extinguishers, Calcium Chloride
36 Extinguishers, Carbon Dioxide
37 Extinguishers, Soda-Acid
38 Extinguishers, Carbon Tetrachloride
39 Extinguishers, Foam
40 Extinguishers, Powder
41 Fire Boat Nozzle Equipment
42 Fire Department Supplies, General
43 Fire Exit Devices, Door Opening
44 Fire Alarm Posts
45 Fire Escapes, Portable
46 Fire Escapes, Rigid
47 First Aid Equipment
48 Flare Lights
49 Flashlights, Hand
50 Flood Lighting Equipment (Lamps, Cable, Reels, etc.)
51 Foam Generating Apparatus
52 Foam Liquid for Extinguishers
53 Gas Masks and Respirators
54 Gas and Smoke Helmets
55 Gas and Smoke Generators
56 Goggles, Firemen's
57 Helmets, Metal, etc.
58 Hose Bridges
59 Hose Carts, Reels and Racks
60 Hose Clamps
61 Hose, Fire
62 Hose, Chemical
63 Hose Holders
64 Hose Jackets
65 Hose Standardization Tools
66 Hydrant Draining Pumps
67 Hydrants, Fire
68 Jacks for Fire Trucks
69 Jacks, Shoring and Prying
70 Ladders, Fire
71 Lightning Arresters
72 Motorcycles, Fire Dept. Equipped
73 Nets, Life
74 Nozzles, Pipes and Miscellaneous Brass Goods
75 Packings, Pump
76 Pads, Pole Hole
77 Paints, Fire Resisting
78 Priming Ether, Motor
79 Pumping Cars, Standard
80 Pumping Cars, Foam
81 Pumps, Fire Apparatus
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